



Andhra Pradesh Industrial Infrastructure Corporation Limited



**BULK DRUG PARK
NAKKAPALLI, ANDHRA PRADESH**

**Selection of bidder for Design, Construction, Testing and
Commissioning for development of Bulk Drug Park at
Nakkapalli, Anakapalli District, Andhra Pradesh
on EPC Basis**

VOLUME – I REQUEST FOR PROPOSAL

AP Bulk Drug Infrastructure Corporation Limited

Request for Proposal

For

**Selection of bidder for Design, Construction, Testing
and Commissioning for development of Bulk Drug
Park at Nakkapalli, Anakapalli District, Andhra
Pradesh on EPC Basis**

(Volume- I)

Issued by

The Chief Engineer (III)

Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC)

Representing the Governor of Andhra Pradesh for the state of Andhra Pradesh on behalf of
AP Bulk Drug Infrastructure Corporation Limited (APBDICL)





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Notice Inviting RFP

Ref. No. _____

Dated: _____

Request for Proposal for Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh, on EPC basis for “AP Bulk Drug Infrastructure Corporation Limited” (APBDICL).

Industrial Infrastructure Corporation Limited (APIIC) is the Tender Initiating Authority (TIA) for the development of Bulk Drug Park at Nakkapalli, Anakapalli District, in Andhra Pradesh.

The Chief Engineer (III), Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC), representing the Governor of Andhra Pradesh for the State of Andhra Pradesh on behalf of AP Bulk Drug Infrastructure Corporation Limited (APBDICL)

State	Location	Name of Work	Period	Defect Liability Period	Estimated Cost (excluding GST)
Andhra Pradesh	Bulk Drug Park at Nakkapalli, Anakapalli District	<p>Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis</p> <p>Trunk Infrastructure</p> <ul style="list-style-type: none"> • Road works including Structures & Area Landscaping • Stormwater Drain • Water distribution system • Recycle Water Supply • Wastewater Conveyance Network System HTDiSand LTDiS and Treatment System • Power Supply and Distribution • Pure Water Supply (EDI+ RO Plant) • Truck Parking • Emergency Response Centre • Boundary fence 	24 months	1 Year	Rs. 1234.75 Crores

State	Location	Name of Work	Period	Defect Liability Period	Estimated Cost (excluding GST)
		<p>Specialized Infrastructure</p> <ul style="list-style-type: none"> • CETP with Marine Outfall System and Partly with ZLD System • Steam Generation Plant & distribution • Common Solvent Recovery System • Solid waste management <p>Buildings</p> <ul style="list-style-type: none"> • R&D Lab & Centre of Excellence • Analytical Testing Labs • Incubation Centre with Testing labs & equipments • Admin Building inclusive of all furnishings. • Warehouse 			

Instructions to Bidder for e-Tendering

1 Accessing/Purchasing Bid Documents

- (i) All the Bidders must have a class-III Digital Signature Certificate (DSC) (with both DSC components, i.e. signing and encryption in the name of the authorized signatory who will sign the Bid) from any of the licensed Certifying Agency (Bidders can see the list of licensed CAs from the link <https://www.apecurement.gov.in/> to participate in e-tendering of the Employer (represented by the Chief Engineer (III) APIIC, the TIA).
- (ii) DSC should be in the name of the authorized signatory as authorized in Appendix II or Appendix III of the submitted Bid. It should be in corporate capacity (that is in Bidder capacity/case of JV in the Lead Member capacity, as applicable). Please ensure that the submission of the document certifies class III of the DSC.
- (iii) To participate in the Bidding, the Bidders must get registered their firm / Joint Venture with the e-tendering portal of the Employer, to have a user ID & password which shall be obtained by submitting the applicable fee & necessary documents. The validity of online registration is one year.
- (iv) The following points may kindly be noted:
 - a. Registration should be valid for at least up to the date of submission of the Bid.
 - b. Bids can be submitted only with valid registration.
 - c. The amendments/clarifications to the Bid document, if any, will be hosted on the Employer's website. <https://www.apecurement.gov.in/>
 - d. If the firm / Joint Venture is already registered with the e-tendering portal of the Employer and the validity of registration has not expired the firm / Joint Venture is not required to apply for a fresh registration.
- (v) The complete Bid document can be viewed/downloaded from the e-tender portal of ap-eproc, from the date & time mentioned in the "Schedule of Bidding Process" section under **Clause 1.3**.

To participate in Bidding, Bidders have to pay **Rs. 3,70,000 (Three Lakhs Seventy thousand Only)** including applicable GST towards processing fee for Bid (non-refundable) to be paid online only on ap-eproc's website <https://www.apecurement.gov.in/>
- (vi) A Bid Security is also to be furnished by the Bidder for an amount of **Rs. 12.36 Crores (Rupees Twelve Crore Thirty Six Lakhs Only)** in the form of Bank Guarantee (BG) as per the format mentioned in **Appendix-VI**, issued from a Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) in the name of the Employer. The acceptance of Bid Security/ EMD from proof of payment submitted is subject to confirmation with the Bank concerned.
- (vii) The banker should be informed that the Bank Guarantee should not be liquidated without official consent in writing from the Employer.

2 Preparation and Submission of Bids

The Bidder may submit his Bid online following the instruction appearing on the screen. A buyer manual containing detailed guidelines for e-procurement is available on the e-procurement portal.

- (i) The documents listed in Clause 2.13 shall be prepared and scanned in different files (in PDF or JPEG format such that the file size is not more than 10 MB) and uploaded during the online submission of the Bid.
- (ii) Bid must be submitted online only through the e-procurement portal of the Employer, using the digital signature of an authorized representative of the Bidder as per the schedule given in Clause 1.3 (Schedule of the Bidding process).
- (iii) Along with the Scanned copies the bidder has to submit a supporting declaration that the scanned copies are genuine copies of the originals which are genuine & the originals are available & will be produced as per clauses 2.13.2 & 2.14 & for anything found contra, undertaking liability for forfeiture of deposit & Civil & Penal consequences.

3 Modification/Substitution/Withdrawal of Bids

- (i) The Bidder may modify, substitute or withdraw its e- Bid after submission prior to the Bid Due Date. No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date & Time.
 - (ii) Any alteration/modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by the Employer shall be disregarded.
 - (iii) For modification of e-Bid, Bidder has to detach its old Bid from an e-tendering portal and upload/resubmit a digitally signed modified Bid.
 - (iv) For withdrawal of the Bid, the Bidder has to click on the withdrawal icon at the e-tendering portal and can withdraw its e-Bid.
 - (v) Before withdrawal of a Bid, it may be specifically noted that after withdrawal of a Bid for any reason, Bidder cannot re-submit the e-Bid.
- (i) Opening and Evaluation of Bids will be done through an online process.
 - (ii) The Employer shall open online received Technical Bids at 1630 hours IST on the Bid Due Date as per Clause 1.3. The Employer will subsequently examine and evaluate the Bids in accordance with the provisions of Section 3 of RFP.
 - (iii) Prior to the evaluation of the Bids, the Employer shall determine whether each Bid is responsive as per clause 2.19 of this Instruction to Bidders as per the e-tendering process.
 - (iv) The online payment facility for the submission of the registration fee and Tender Processing Fee, which is payable to the e-tender service provider, has been enabled on the e-Tender Portal <https://www.apecurement.gov.in/> the Bidders can pay the Registration Charges as applicable and Tender Processing Fees on-line.

DISCLAIMER

This Tender is not an Agreement and is neither an offer nor an invitation by the Employer to the prospective Bidders or any other person. The information contained in this tender document or subsequently provided to Bidder, whether verbally or in documentary or any other form by or on behalf of the Employer or any of its employees or advisors, is provided to Bidder on the terms and conditions set out in this tender and such other terms and conditions subject to which such information is provided.

The purpose of this tender is to provide interested parties with information that may be useful to them in making their financial offers (Bids) pursuant to this tender. This tender includes statements, which reflect various assumptions and assessments arrived at by The Employer in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This tender may not be appropriate for all persons, and it is not possible for the Employer, its employees or advisors to consider the objectives, financial situation and particular needs of each party who reads or uses this tender. The assumptions, assessments, statements and information contained in the Bidding Documents, especially the Preliminary Design details/ information/Investigations, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this tender and obtain independent advice from appropriate sources.

Information provided in this tender to the Bidder is on a wide range of matters, some of which may depend upon the interpretation of the law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Employer accepts no responsibility for the accuracy or otherwise of any interpretation or opinion on law expressed herein.

The Employer, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this tender or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the tender and any assessment, assumption, statement or information contained therein or deemed to form part of this tender or arising in any way for participation in this Bidding Process.

The Employer also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this tender.

The Employer may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this tender. The issue of this tender does not imply that the Employer is bound to select a Bidder or Contractor, as the case may be, for the Project and The Employer reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by The Employer, or any other costs incurred in connection with or relating to its Bid. All such costs and expenses shall remain with the Bidder and The Employer shall not be liable in any manner whatsoever for the same or any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid, regardless of the conduct or outcome of the Bidding Process.

Nothing in this tender shall constitute the basis of a contract which may be concluded in relation to the Project, nor shall such documentation/information be used in construing any such contract. Each Bidder must rely on the terms and conditions contained in any contract, when, and if, finally executed, subject to such limitations and restrictions which may be specified in such contract.

The Bidders are prohibited from any form of collusion or arrangement in an attempt to influence the selection and award process of the Bid. Giving or offering of any gift, bribe or inducement or any attempt to any such act on behalf of the Bidder towards any officer/employee of Employer or to any other person in apposition to influence the decision of the Employer for showing any favour in relation to this tender or any other contract, shall render the Bidder to such liability/penalty as the Employer may deem proper, including but not limited to rejection of the Bid of the Bidder and forfeiture of its Bid Security.

Laws of the Republic of India are applicable to this tender.

Each Bidder's procurement of this tender constitutes its agreement to, and acceptance of, the terms set forth in this Disclaimer. By acceptance of this tender, the recipient agrees that this tender and any information herewith supersedes documents(s) or earlier information, if any, in relation to the subject matter hereto.

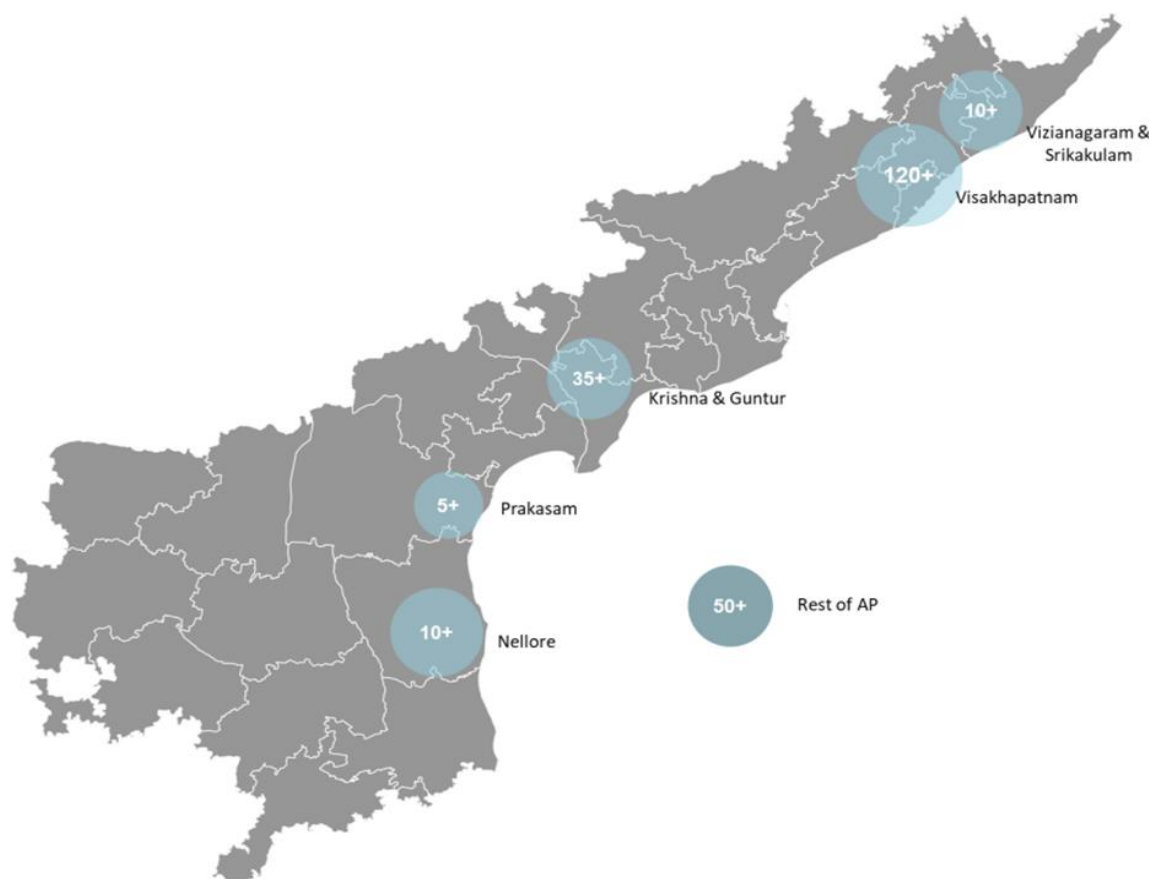
Signature of the Chief Engineer (III), APIIC

PART A: Introduction

1 Introduction

1.1 Project Background

1.1.1 Andhra Pradesh, the eighth largest state in India and is emerging as a preferred destination in the country for pharma companies to set up their manufacturing base because of several investment friendly factors that promotes industrial growth and conducive policies of the state government. Andhra Pradesh is home to several renowned pharmaceutical firms and has a vibrant pharma ecosystem with more than 300 units, of which more than 40 Industries are WHO-approved and 22 USFDA approved. It has an excellent eco-system with pharmaceutical clusters spread across the State.



Home to 200+ pharmaceutical units.

- 3rd largest state and 16% share in terms of pharma output.
- US\$ 5 Bn Pharma output from AP.
- US\$ 1.0 Bn Pharma exports from AP.
- Amongst the top 3 states in pharmaceutical exports.
- Pharmaceutical industry worth USD 1 billion in North Andhra Region.
- The Jawaharlal Nehru Pharma City (JNPC) developed at Parawada near Visakhapatnam in 2,400 acres, of which 611 acres fall under the ambit of Special Economic Zone (SEZ), has attracted major investments from Mylan, Pfizer, Dr Reddy's Lab and Aurobindo Pharma. JN

Pharma City in Visakhapatnam houses more than 60 pharmaceutical units.

- Andhra Med Tech Zone – Asia’s 1st medical devices park in Visakhapatnam is operational.
- 128 pharmaceutical colleges are turning out over 11,000 highly skilled personnel annually.

Formation of APBDICL

Govt. of Andhra Pradesh (GoAP) recognising its strategic Position in Terms of Ease of Doing Business and its contribution to the Pharma Sector embarked on the idea of Developing a World Class Bulk Drug Park under the scheme announced by Department of Pharmaceuticals (DoP), Ministry of Chemicals and Fertilizers, Government of India.

GoAP established AP Bulk Drug Infrastructure Corporation Ltd. (APBDICL), as a 100% subsidiary of Andhra Pradesh Industrial Infrastructure Corporation vide GO MS 45 dated 26/08/2020 to act as State Implementing Agency for Development and Operation of the AP BULK DRUG PARK proposed under the DoP Scheme

Project Site

APIIC has identified around 6500 acres of land for Developing Nakkapalli Industrial area (NIA). NIA comes under the Nakkapalli Cluster which is one of the two clusters of Visakhapatnam Node in Vizag Chennai Industrial Corridor Project. Nakkapalli Industrial Area (NIA) also falls under Visakhapatnam-Kakinada Petroleum, Petrochemical Investment Region (VK-PCPIR) which is being promoted by GoAP along with GoI.

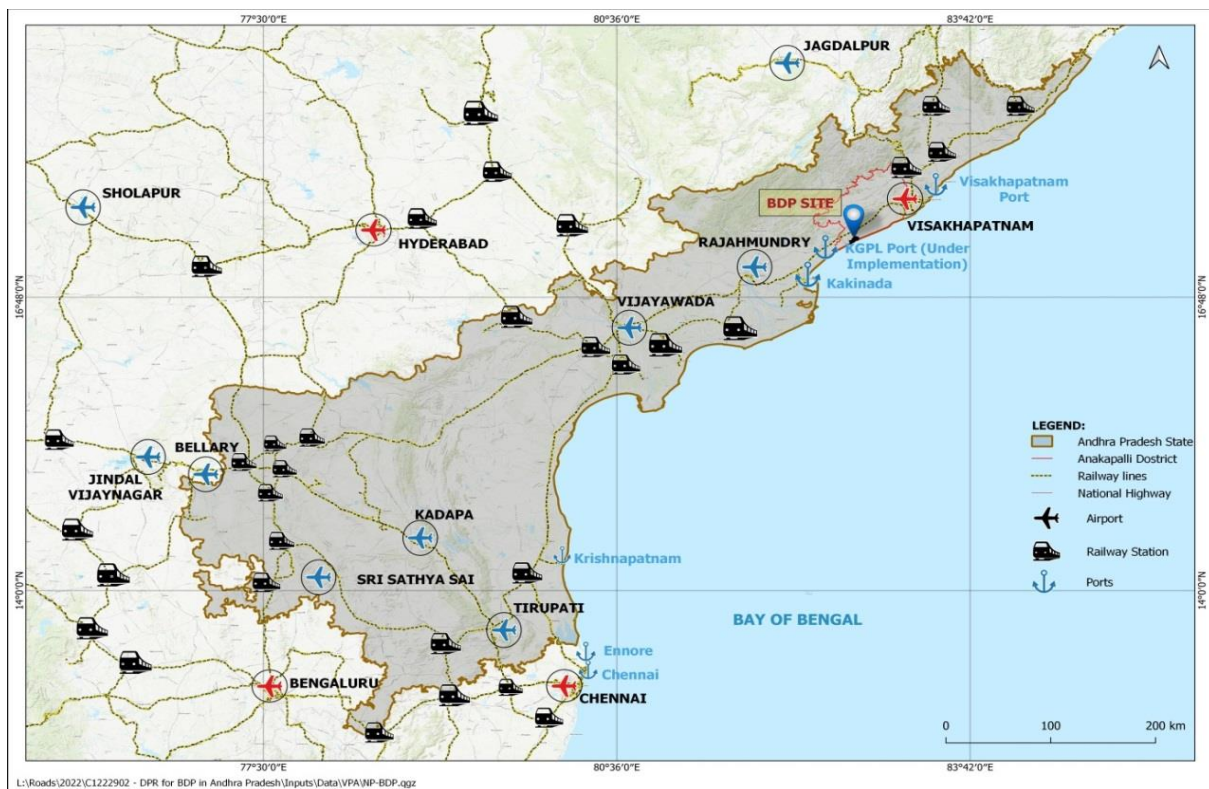


Figure 1: Location Map of APBDP, Nakkapalli

Out of the total area of NIA, around 2001.8 acres has been earmarked for establishing the Bulk

Drug Park. The identified land falls under Rajayyapeta, Buchirajupeta, Chandanada, Vempadu and Donivani Lakshmiapuram villages of Nakkapalli mandal in Anakapalli district of Andhra Pradesh. Most of the earmarked land is in the possession of APIIC.

The project site lies at about 5 km to the south of National Highway 16 (Kolkata-Chennai), which is part of the golden quadrilateral highway network of India. Currently, an existing major district road (MDR) connecting Vempadu is the primary entry point to the project site. A village road from Kagitha also provides access to NIA Start-Up Area (Phase I Area) which in turn connects BDP area. The rest of the roads in the region are minor village roads.

The site is strategically positioned in terms of Regional Connectivity. The project site lies 4.5 km South of National Highway 16 (Kolkata-Chennai). The nearest rail head is Tuni which is around 30 km. Visakhapatnam Port (70 km aerial distance) and Gangavaram Port (60km aerial distance) are located towards northeast of the site. Both these ports can be accessed from the site via NH-16. The site also has the advantage of using the Kakinada Deepwater Port (60 km aerial distance) to the southwest and the proposed Kakinada Gateway port (about 25 km aerial distance). Visakhapatnam airport is the nearest airport which is situated (around 66 km aerial distance) towards north-eastern side of the site. GoAP is also planning to develop a greenfield international airport near Visakhapatnam city at Bhogapuram.

Andhra Pradesh Road Development Corporation Ltd (APRDC) has initiated development of a 4.5 km long greenfield road from NH-16 to NIA Start-Up Area with a 45 m RoW. This road would form the last mile connectivity for the Start-Up Area of NIA as well as proposed BDP.

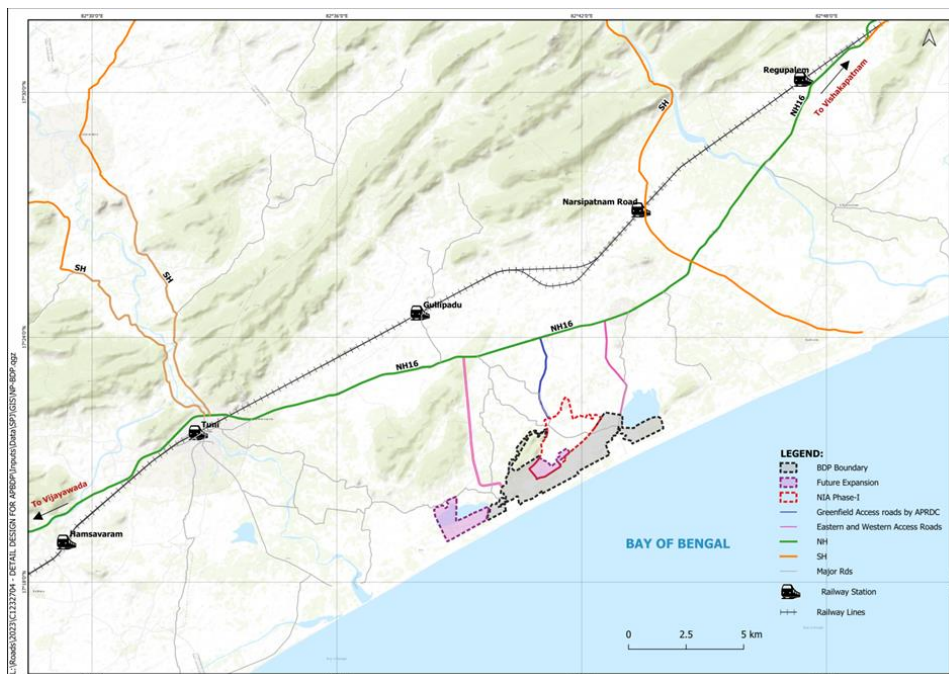


Figure 1 Local Connectivity Map of APBDP, Nakkapalli

Proposed Landuse

Proposed land use details are given below in Table 1-3 followed by depiction in Figure 1-4.

Landuse	Area (Acres)	Percentage (%)
A) Industrial	1009.5	50.43%
□ API-Dis Chemical Synthesis	595.4	29.74%
□ Fermentation	414.1	20.69%
B) Commercial and other plots	149.8	7.48%
Mixed use	17.9	0.89%
Supporting MSME	52.8	2.64%
Warehouse	18.8	0.94%
Amenities	22.1	1.10%
Parking	38.2	1.91%
C) Utilities	120.2	6.00%
D) Open Space	307.6	15.37%
E) Water Body	63.4	3.17%
F) Inter Tidal	76.3	3.81%
G) Green Belt	85.4	4.27%
H) Roads	189.6	9.47%
Total	2001.8	100

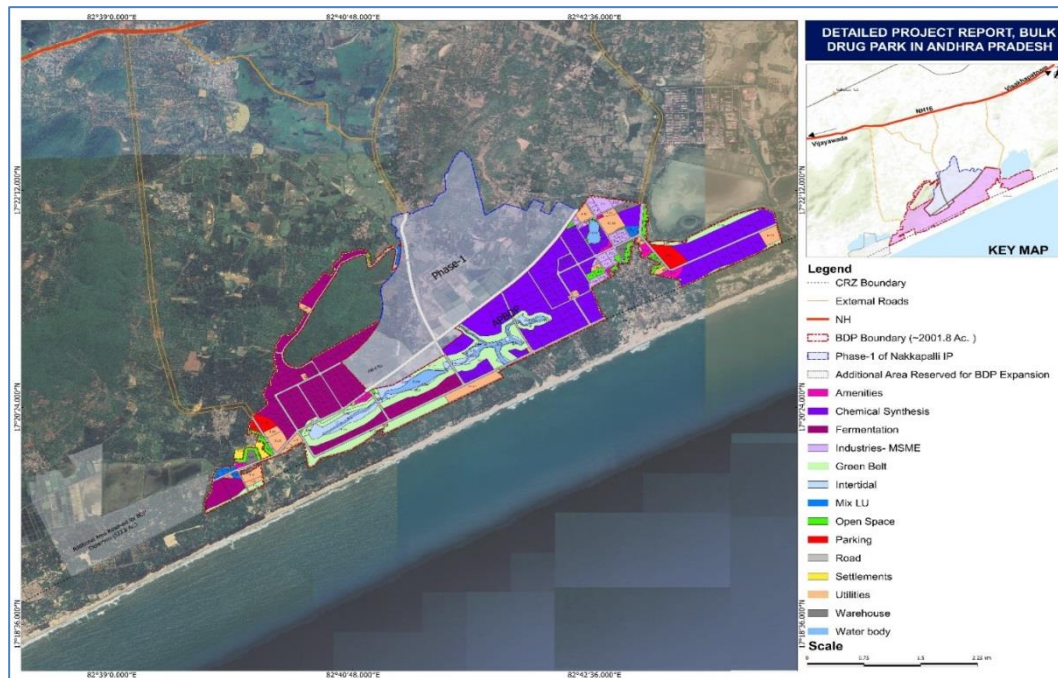


Figure 2 Proposed Land Use Map of BDP, Nakkapalli

- 1.1.2** “AP Bulk Drug Infrastructure Corporation Limited (APBDICL) a Government of Andhra Pradesh undertaking is the State Implementing Agency (SIA) for the development of Bulk Drug Park at Nakkapalli, Anakapalli District, in Andhra Pradesh.
- 1.1.3** As part of this endeavour, the Employer (APBDICL) has decided to undertake this work (the “Project”) through EPC mode for Construction and has decided to carry out the Bidding Process for the selection of a Bidder to whom the Project may be awarded.
- 1.1.4** The selected Bidder (the "Contractor") shall be responsible for the Designing, Engineering, Procurement and Construction of the Project under and in accordance with the provisions of an Engineering, Procurement and Construction contract (the "EPC Agreement") to be entered into between the Contractor and the Employer in the form provided by the Employer as part of the Bidding Documents pursuant hereto. The Contractor shall also be responsible for the maintenance of the Project during the Defects Liability Period specified, as per the tender document.
- 1.1.5** The scope of work will broadly include surveys, investigations, designing, supplying, construction, testing and commissioning of Infrastructure Works for Road works including Structures & Area Landscaping, Stormwater Drain, Water distribution system, Recycle water Supply, Wastewater Conveyance Network System HTDiS and LTDiS and Treatment System, Power Supply and Distribution, Pure Water Supply (EDI+ RO Plant), Truck Parking, Emergency Response Centre, Boundary fence, CETP with Marine Outfall System and Partly with ZLD System, Steam Generation Plant, Common Solvent Recovery System, Solid waste management, R&D Lab & Centre of Excellence, Analytical Testing Labs, Incubation Centre with Testing labs & equipments, Admin Building inclusive of all furnishings, Warehouse for Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC. Basis, including

testing, commissioning. The scope also includes covering the Defects Liability Period of the Project for 1 year from the date of issue of the completion certificate for construction works.

- 1.1.6 The assessment of actual costs, however, will have to be made by the Bidders.
- 1.1.7 The Agreement sets forth the detailed terms and conditions for the award of the Project to the Contractor, including the scope of the Contractor's work and obligations.
- 1.1.8 The Statements and explanations contained in this tender are intended to provide a better understanding to the Bidders about the subject matter of this RFP and should not be construed or interpreted as limiting in any way or manner the scope of work and obligations of the Contractor set forth in the Agreement or The Employer's rights to amend, alter, change, supplement or clarify the scope of work, the work to be awarded pursuant to this RFP or the terms thereof or herein contained. Consequently, any omissions, conflicts or contradictions in the Bidding Documents including this RFP are to be noted, interpreted, and applied appropriately to give effect to this intent, and no claims on that account shall be entertained by the Employer.
- 1.1.9 The Employer shall receive Bids pursuant to this RFP in accordance with the terms set forth in this RFP and other documents to be provided by The Employer pursuant to this RFP, as modified, altered, amended and clarified from time to time by the Employer (collectively the "Bidding Documents"), and all Bids shall be prepared and submitted in accordance with such terms on or before the Bid Due Date specified in NIT for submission of Bids (the "Bid Due Date")

1.2 Brief Description of the Bidding Process

- 1.2.1 The Employer has adopted a single stage two-part process (collectively referred to as the "Bidding Process") for the selection of the Bidder for the award of the Project. Under this process, the Bid shall be invited under two parts Eligibility and qualification of the Bidder will be first examined based on the details submitted under the first part (Technical Bid) with respect to eligibility and qualifications criteria prescribed in this RFP. (The "Bidder," which expression shall, unless repugnant to the context, include all members of the Joint Venture). Prior to Bidding, the Bidder shall pay to the Employer a sum of **Rs.3,70,000 (Rupees Three Lakhs Seventy Thousand Only)** including Applicable GST as the cost of the Tender Fee. The Financial Bid under the second part shall be opened only for those Bidders whose Technical Bids are responsive as per the eligibility and qualifications requirements set forth in this RFP.
- 1.2.2 The Government of India has issued guidelines (see Appendix-V) for the qualification of Bidders seeking to acquire stakes in any public sector enterprise through the process of disinvestment. The guidelines shall apply mutatis mutandis to this Bidding Process. The Employer shall be entitled to disqualify a Bidder in accordance with the aforesaid guidelines at any stage of the Bidding Process. Bidders must satisfy themselves that they are qualified to Bid, and should give an undertaking to this effect in the form of Appendix-I.

- 1.2.3** In the Bid Stage, the aforesaid Technical qualified Bidders, including their successors (the "Bidders"), are being called upon to open their financial offers through Reverse Tendering Process, as per G.O. Ms. No. 67, Water Resources (Reforms) Department dated: 16.08.2019 (the "Bids") in accordance with the terms specified in the Bidding Documents. The Bid shall be valid for a period of not less than 180 days from the Bid Due Date.
- 1.2.4** The Bidding Documents include the draft Agreement for the Project. The Preliminary Design detailing scope of the Project as prepared by the Employer/ consultants of the Employer is also provided to the Bidders. The aforesaid documents and any addendum issued subsequent to this RFP Document will be deemed to form part of the Bidding Documents.
- 1.2.5** A Bidder is required to deposit, along with its Bid, a Bid security for **Rs. 12.36 Crores (Rupees Twelve Crores and Thirty Six Lakhs only)** (the "Bid Security"), refundable after signing of a contract with Selected Bidder after 180 days from Bid Due Date whichever is earlier. In the case of the Selected Bidder Bid Security shall be retained till the Bidder has provided a Performance Security under the Agreement. The Bidders will have to provide Bid Security in the form of a Bank Guarantee issued by any Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) in India acceptable to the Employer, and in such event, the validity period of the Bank Guarantee, shall not be less than 240 (Two hundred and forty) days from the Bid Due Date, inclusive of a claim period of 60 (sixty) days, and may be extended as may be mutually agreed between the Employer and the Bidder from time to time. The Bid shall be summarily rejected if it is not accompanied by the Bid Security.
- 1.2.6** Bank Details of Employer: AP Bulk Drug Infrastructure Corporation Limited required for Bid Security Bank Guarantee:
- 1.2.7** Beneficiary Name – AP Bulk Drug Infrastructure Corporation Ltd
- 1.2.8** Address - APIIC Towers, Plot No-1 (10th floor), IT Park, Mangalagiri, Guntur(Dist), AP-522503
- Name of the Bank – HDFC Bank
 - Branch Address – 5-87-90, Main Road, Lakshmiapuram, Guntur, Andhra Pradesh - 522001
 - Type of Account – Current Account
 - Account No – 50200052486913
 - IFSC Code – HDFC0000189
- The banker should be informed that the Bank Guarantee should not be liquidated without official consent in writing from the Government/Employer.
- 1.2.9** Bidders are advised to examine the Project in greater detail and to carry out, at their cost, such studies as may be required for submitting their respective Bids for the award of the contract including implementation of the Project.

- 1.2.10** Bids are invited for the Project on the basis of the lowest quoted price as determined during thereverse tendering process as per clause 1.2.15 for implementing the Project (the "Bid Price"). The total time allowed for completion of construction under the Agreement (the "Construction Period") and the period during which the Contractor shall be liable for rectification of any defect or deficiency in the Project after completion of the Construction Period (the "Defects Liability Period") shall be pre-determined and is as specified in the draft Agreement forming part of the Bidding Documents.
- 1.2.11** In this RFP, the term "Lowest Bidder" shall mean the Bidder who is quoting the lowestBid price during the reverse tendering process in reference to clause 1.2.15.
- 1.2.12** Generally, the Lowest Bidder shall be the selected Bidder. The remaining Bidders shall be keptin reserve and may, in accordance with the process specified in the RFP, be invited in sequence of their due selection to match the Bid submitted by the Lowest Bidder in case such Lowest Bidder withdraws or is not selected for any reason. In the event that none of the other Bidders match the Bid of the Lowest Bidder, the Employer may, in its discretion, invite fresh Bids from the remaining Bidders or annul the Bidding Process,as the case may be. Same is Subject to Reverse Tender Process covered by the G.O. Ms. No. 67, Water Resources (Reforms), Dept. Dt:16.08.2019 and subsequent one covered by G.O.Ms. No. 50 Water Resources Dept. Dt. 15.10.2020.
- 1.2.13** Any clarification concerning this RFP shall be submitted in writing to the mail id: chiefengineer3-ap@apiic.in or by fax and e-mail to the officer designated in this RFP.
- 1.2.14** The envelopes/ communication shall bear the following identification/Title: "Clarification: RFP for Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC basis".
- 1.2.15** If any successful bidder fails to submit the original hard copies of uploaded certificates/documents, Online Payment receipts / BG towards Bid Security /EMD within the stipulated time or if any variation is noticed between the uploaded documents and the original hard copies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on e-Procurement platform for a period of 3 years besides forfeiting the Bid Security/EMD and alsobe blacklisted. The e-Procurement system would deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the tender Inviting Authority in the system. Besides this, the Department shall invoke all processes of law including criminal prosecution of such defaulting bidder as an act of extreme deterrence to avoid delays in the tender process for execution of the development schemes taken up by the Government. The information to this extent will be displayed on the e-procurement platform website.
- 1.2.16** Reverse tendering process:
- Identification of Eligible Bidders as per Government GO MS. No. 50 (WR(R) Dept) dated 15.10.2020 as Submission of Hard Copies of uploaded Scan copies of Demand Draft / Bank Guarantee towards Bid Security/EMD by participating bidders to the tender Inviting authority

before opening of Price Bid is dispensed with.

Only those bids will be evaluated and considered for comparison to arrive at L1 value and allowed to participate in reverse bidding in whose favour an authorised communication or a letter or a scanned and uploaded copy of that letter on e- procurement Website or an e-mail from the issuing bank or any authorised communication from the bank with regard to issue of the Bank Guarantees/ Demand Draft is sent to the Tender Initiating authority within the stipulated time.

All Bank Guarantees uploaded by all Bidders would be verified with the issuing Bank, subsequently and if any uploaded Bank Guarantee is found to be forged or tampered with or fake, then it would be considered as fraud and would be liable for criminal action invariably.

Tenders up to 25% less (-25%) and up to 5% more (+5%) than the estimated cost may be accepted and more than 5% (>+5%) of the estimated cost may be rejected. Tenders which are less beyond minus 15% ($\{<-15\%\}$) of the estimate but up to minus 25%, a Bank Guarantee or Demand Draft for the difference between the tendered amount and 85% of the estimate value should be taken, over and above the other guarantee, which would be released after the completion of work with other Bank Guarantees. Illustration: If a L1 bidder quotes Rs 75 for an estimated value of Rs 100, then the bidder will have to give an additional BG/DD of Rs 10 {Rs 85 (that is 85% of Est. Value)- Rs 75 (Tendered amount)}.

All the bidders shall invariably upload the scanned copies of Demand Draft /Bank Guarantee in e- Procurement system and this will be the primary requirement to consider the bid as responsive. The banker should be informed that the Bank Guarantee should not be liquidated without official consent in writing of the Government/ Employer.

The Department shall carry out the technical bid evaluation solely based on the uploaded certificates / documents, DD / BG towards Bid Security/EMD/affidavit, in the e-Procurement system and open the price bids of the responsive bidders and proceed further for reverse auctioning.

After identifying the eligible bidders as per Government GO MS. No. 50 (WR(R) Dept) dated 15.10.2020, eligible bidders to participate in e-auction process in terms of guidelines issued vide G.O.Ms.No.67, Water Resources (Reforms) Dept., Dt.16.08.2019.

- a. All bidders shall upload the scanned documents of original copies of the DD / BG for Bid Security along with necessary affidavit duly notarized for Genuinity along with tender documents and Initial Price Offer within the stipulated time, failing which their Initial Price Offer shall not be opened and they will not be taken forward into the reverse auction.
- b. After identification of the L-1 Initial Price Offer, eligible (those who have uploaded scanned documents of original copies of the DD/ BG for Bid Security/EMD along with necessary affidavit duly notarized for Bid Securitys / EMDs Genuinity within the stipulated time) bidders shall be transferred to the Reverse Auction Platform.
- c. The initial period of the Reverse tendering process will start at the stipulated time in

the tender document following which there will be auto extensions of time by 15 minutes in case of any reduction in bids recorded in the prior 15 minutes.

- d. The L1 bid may be determined following a period of inactivity of more than 15 minutes of reversebidding after the initial 3-hour period after closure of the main bidding.
- e. Decrements made in each subsequent bid shall not be less than 0.5% of the Estimated ContractValue uploaded.

Conclusion of reverse tendering process:

- a. After conclusion of the reverse auction process, the pre-qualification criteria of L-1 bidder shall be verified. In case of successful verification of pre-qualification criteria of the L-1 Bidder, he will be awarded the contract and the Bid Security / EMDs of other bidders shall be refunded.
- b. The Department will notify the successful bidder for submission of original hard copies of all uploaded documents, DD / BG towards Bid Security/EMD prior to entering into agreement.
- c. The successful bidder shall invariably furnish the original certificates/documents of the uploaded scanned copies to the Tender Inviting Authority, original Bank Guarantee & Demand Draft towards Bid Security/EMD before entering into agreement either personally or through courier or post and the receipt of the same within the stipulated date shall be the responsibility of the successful bidder.
- d. The Department will not take any responsibility for any delay in receipt / non-receipt of original DD / BG towards Bid Security/EMD, certificates /documents, from the successful bidder before the stipulated time. On receipt of documents, the Department shall ensure the genuineness of the DD / BG towards Bid Security/EMD and all other certificates / documents uploaded by the bidder in e-Procurement system in support of the qualification criteria before concluding the agreement) If any successful bidder fails to submit the original Hard Copies of uploaded certificates / Documents, DD / BG towards Bid Security/EMD within the stipulated time or if any variation is noticed between the uploaded documents and the hard copies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on e-Procurement platform for a period of 3 years. The e- Procurement system would deactivate the user ID of such defaulting successful bidder based on the trigger / recommendation by the Tender Inviting Authority in the system. Besides this, the Department shall invoke all Processes of Law including criminal prosecution of such defaulting bidder as an act of extreme deterrence to deter frivolous bidders and to avoid delays in the tender process for execution of the development schemes taken up by the Government. The information to this extent may be displayed in the e-Procurement platform website and all Govt. Dept./Public Sector Units/ Local Bodies/Autonomous Bodies in AP would prevent such bidders from participating in the bidding process.

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- e. In case of the L1 bidder being disqualified, the Department reserves the right to restart the reverse auction process with the L2 price of the concluded reverse auction as the start/ maximum bid price OR to restart the entire tendering process from the NIT Stage. In either case, the date and time of the subsequent process shall be communicated to the remaining bidders.

1.3 Schedule of Bidding Process

The Employer shall endeavor to adhere to the following schedule:

S. No.	Event Description	Date
1	Date of Publication of NIT	Feb 12, 2024, Monday
2.	Pre-Bid meeting	Feb 28, 2024, at 11:30 hrs., Wednesday
3.	Last date for receiving Clarifications	Mar 1, 2024, at 17: 30 hrs., Friday
4.	APBDICL's response to clarifications	Mar 6, 2024, at 17:30 hrs., Wednesday
5.	Bid Due Date (BDD)	Mar 14, 2024, upto 15:00 hrs., Thursday
6.	Opening of Technical Bids	Mar 14, 2024, Thursday
7.	Opening of Financial Bid* (through E-Auction Reverse Tendering Process)	Mar 18, 2024, Monday
8.	Declaration of Selected Bidder	Mar 18, 2024, Monday
9.	Physical submission of documents by the selected Bidder	Within 7 days from the opening of Financial Bid
10.	Letter of Award (LoA)	Within 10 days from the declaration of the selected bidder
11.	Signing of Contract	Within 30 days from the declaration of selected Bidder

(*The Employer shall inform the date & time of the online opening of the Financial Bids to the technically responsive Bidders through the e-procurement portal of the Employer and e-mail.)

1.4 Pre-Bid Conference

Pre-Bid Conference of the Bidders shall be convened in hybrid mode at the designated date and time as mentioned in table 1.3 above. The link will be published in the e-procurement portal well in advance and the interested bidders can participate in the meeting.

During the course of Pre-BID conference, the Bidders will be free to seek clarifications and make suggestions for consideration of the Employer. The Employer shall endeavor to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Bidding Process.

The pre-bid shall be confined only for clarifications and not to make any modifications to the

Judicial Preview Process undertaken and findings given, and compliance made in Form-III of the Andhra Pradesh Infrastructure (Transparency Through Judicial Preview) Act, 2019 of Judicial Preview Process. The prospective bidder can submit objections or suggestions in the Request for Proposal (RFP) during the time given in the Judicial Preview Process & cannot seek later at the time of Clarifications.

Part B: Instruction to Bidders

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2 General

2.1 Brief Scope of Bid

2.1.1 The scope under this contract comprises Data collection and studies, Design, Construction, Testing and Commissioning for development of AP Bulk Drug Park (Road works including Structures & Area Landscaping, Stormwater Drain, Water distribution system, Recycle water Supply, Wastewater Conveyance Network System HTDiS and LTDiS and Treatment System, Power Supply and Distribution, Pure Water Supply (EDI+ RO Plant), Truck Parking, Emergency Response Centre, Boundary fence, CETP with Marine Outfall System and Partly with ZLD System, Steam Generation Plant, Common Solvent Recovery System, Solid waste management, R&D Lab & Centre of Excellence, Analytical Testing Labs, Incubation Centre with Testing labs & equipments, Admin Building inclusive of all furnishings, Warehouse) on an EPC basis with Defects Liability Period of 1 (one) year including all Civil, Structural and Architectural, Mechanical, Electrical, Process Control & Instrumentation and all Infrastructural work covering lighting, drains, all preparatory & temporary works for the purpose of meeting the entire scope of works.

2.1.2 For detailed scope Refer to Volume II, Section 1.6.

2.1.3 The Contractor shall be fully responsible to ensure that the whole of the Works, including each component, is designed, and constructed in a manner so that the System as a whole operates as a fully integrated system which is capable of achieving the required output efficiently and economically, and to include all plant, equipment and accessories required for the safe and satisfactory operation of the facilities. To achieve this, the Contractor shall ensure that each component performs in a manner which is complimentary to that of all other components. Any accessories which are not specifically mentioned in the specifications, but which are usual or necessary for the completion of the Works and successful performance of the System and facilities shall be provided by the selected Bidder within the tendered cost. The Contractor shall, to the maximum extent practical and feasible, endeavour to standardize the manufacture and supply of plant and equipment so as to minimize the operation and maintenance requirements. The Contractor shall ensure that his designs are "maintenance-friendly" and that all items of plant and equipment are designed and installed in a manner which will facilitate routine and periodic maintenance operations.

2.2 Eligibility of Bidders

2.2.1 For determining the eligibility of Bidders and their qualifications, the following shall apply:

- a. The Bidder may be a single entity or a group of entities (the "Joint Venture"), coming together to implement the Project. However, a Bidder, applying individually or as a member of a Joint Venture, as the case may be, cannot be a member of another group of entities.

The term Bidder used herein would apply to both a single entity and a Joint Venture.

- b. A Bidder may be a company incorporated under the Indian Companies Act, 1956 & 2013 or under an existing agreement to form a Joint Venture. A Joint Venture shall be eligible for consideration subject to the conditions set out in Clause 2.2.6 below. Provided, within 30 days of the Award of LoA, the bidder undertakes to incorporate a legal entity. In case the Bidder fails to incorporate the Joint Venture as a legal entity, Bid Security/EMD shall be forfeited, and the Employer shall have the right to take other legal recourse necessary to implement the Project.
- c. A Bidder shall not have a conflict of interest (the "Conflict of Interest") that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified. Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:
 - i. The Bidder, its Joint Venture Member (or any constituent thereof) and any other Bidder, its Member or any Member of its Joint Venture thereof (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding of a Bidder, or its Joint Venture Member (where happened to be a company) thereof (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Bidder, or its Joint Venture Member, as the case may be), in the other Bidder, its Joint Venture Member is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in section 4A of the Companies Act 1956. For the purposes of this Clause 2.2.1(c), indirect shareholding held through one or more intermediate persons shall be computed as follows:
 - a. where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and
 - b. subject always to sub-clause (a) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (b) if the Shareholding of such person in the intermediary is less than 26% of the subscribed and paid-up equity shareholding of such intermediary; or
 - i. a constituent of such Bidder is also a constituent of another Bidder; or
 - ii. such Bidder or any of its Joint Venture Member thereof receives or has received

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- any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other Bidder, or any of its Joint Venture Member thereof or has provided any such subsidy, grant, concessional loan or subordinated debt to any other Bidder, its Member or any of its Joint Venture Member thereof; or
- iii. such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or
 - iv. such Bidder, or any of its Joint Venture Member thereof has a relationship with another Bidder, or any of its Joint Venture Member thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other's information about, or to influence the Bid of either or each other; or
 - v. such Bidder, or any of its Joint Venture Member thereof has participated as a consultant to the Employer in the preparation of any documents, Design, or technical specifications of the Project.
- c. A Bidder shall be liable for disqualification if any legal, financial, or technical adviser of the Employer in relation to the Project is engaged by the Bidder, or any of its Members, as the case may be, in any manner for matters related to or incidental to the Project. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Bidder, its Member in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of this RFP.
- d. Without prejudice to the satisfaction of the above requirements and any other prerequisites as per the terms of this document by the Bidder, its Joint Venture Member (or any constituent thereof), a Bid may still be disqualified if it has, in the sole and exclusive opinion of the Employer:
- i. made any misleading or false representation or deliberately suppressed the information in the technical schedules/enclosures required to be submitted with /in support/as a clarification with respect to its Bid; and/or
 - ii. has been blacklisted/debarred by the Government of Andhra Pradesh and/or any department of Andhra Pradesh Government including but not limited to R&B, Panchayat Raj, Irrigation, Public Health or undertaking or any Municipal Corporation or any other Corporation / Board / Society under the administrative control of these departments has:
 - i. Cancelled or suspended registration in last five years and not revoked up to the date of bid submission.
 - ii. Blacklisted the Contractor

- iii. Debarred the Contractor for participating in future tendering; and/or
 - iii. has a record of poor performance such as abandoning work, not properly completing the contract, or financial failures/weaknesses; and/or
 - iv. engaged in Fraud & Corrupt practices as mentioned under this Tender.
- e. Profitability: The Bidder shall be profit (net) making and shall have made a profit at least in three financial years out of the last seven financial years prior to submitting the Bid. The Bidder should submit attested copies of the auditor's report.
- f. Other Eligibility conditions shall include:

Bidder shall also fulfil the eligibility criteria such that their available Bid capacity is more than the approximate Estimated Project Cost indicated in this RFP. The available Bid capacity will be calculated as under:

Assessed Average Bid Capacity (A x N x 1.5) – B, Where

A = The "A" value (maximum) of the works in any one year during the last seven years (*updated to the price level of the year indicated in the table below) concerned, it invariably requires certification by the Superintending/Executive Engineer for Govt. works and certification is required by the equivalent of Superintending/Executive Engineer and statutory auditor of the Bidder for other than Govt. works, concerned of what were the works executed in any of the last seven financial years for works value at least of **Rs.1234.75 Crores** and subject to what is detailed in cl.2.2.2 A (i and II) for arriving at the above figure.

N = 2 i.e. Number of years prescribed for completion of the works for which Bids are invited.

B = The "B" value (*updated to the price level of the year indicated in the table below) as to the existing commitments and ongoing works to be completed during the next 2 years**, i.e. a period of completion of works for which Bid is invited. The bidder shall furnish statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works, which shall be certified by a Statutory Auditor.

Without compliance to the above, the calculation shown by the bidder simply on bid capacity cannot be considered but for rejection of bid on the said requirement."

In the case of a Joint Venture, the total Assessed Available Bid Capacity shall be the sum of all the Assessed Available Bid Capacity of the individual member.

Note 1: The Statement showing the value of existing commitments and ongoing works as well as the stipulated period completion remaining for each of the works listed should be countersigned by the Statutory Auditor of the company. Also, such a list of ongoing works including agreement values and balance works shall be declared on non-judicial stamp

paper worth Rs. 100/- and notarized.

Note.2: In case the bidder submits that there are no existing commitments and ongoing works anywhere in the country, he shall file an affidavit to that effect duly notarized with undertaking for criminal prosecution if anything found in the affidavit information is untrue besides the right of the Employer to terminate the contract and for other legal recourse.

1. **The following updation factor shall be applied for updating the values of work to bring them to the base year. The current financial year in which the Bid is invited shall be considered the base year.*

2. *** period of completion of the works for which Bids are invited*

Year	Financial Year	Updation Factor\$
Base (Year of Inviting tenders)	2023-2024	1.0
-1	2022-2023	1.10
-2	2021-2022	1.21
-3	2020-2021	1.33
-4	2019-2020	1.46
-5	2018-2019	1.61
-6	2017-2018	1.77
-7	2016-2017	1.95

If the Tenderer fails to meet any of the criteria as per the above clause, such Tenderer will not be evaluated in further steps.

2.2.2 To be eligible to Bid, a Bidder shall fulfil the following conditions of eligibility:

A. Technical Capacity –

- i. For demonstrating technical capacity and experience (the Technical Capacity”), The Bidder or its Associate shall, over the past 7 financial years preceding the Bid Due Date, have received payments for the construction of following eligible Project(s)*, or has undertaken construction works by itself, such that the sum total thereof is more than ₹. 1234.75 Crores (the “Threshold Technical Capacity”).

**Eligible Project(s):* The eligible projects would be deemed to include Development

of Roads, Industrial Estate /Park / Township, SEZ, Logistic parks, Airports, Ports, Water/ Sewage network system, Water/ Sewage/ Effluent Pumping and Treatment Plants, Common Solvent Recovery, Steam Generation and distribution, Green belt, Storm Water Drainage, Electrical Substations and Distribution Networks.

The bidder and/or its Associate shall demonstrate construction experience in the following nine key activities for respective components within the period from 1st Jan 2017 up to bid submission last date for the purpose of evaluation of Technical Capacity:

Environment and social Infrastructure:

1. Design, construction, supply, installation, commissioning for a minimum of 3 MLD Common Effluent Treatment Plant (CETP) in a single location.
2. Design, construction, supply, installation, commissioning for a minimum of 80 tph capacity of Steam generation & distribution

OR

A MoU by the Bidder with another agency/ies that has the required experience of design, construction, supply, installation, commissioning for a minimum of 80 tph capacity of Steam generation & distribution.

3. Design, construction, supply, installation, commissioning for a minimum of 50 KL/day capacity solvent recovery plant in a single location.

OR

A MoU by the Bidder with another agency that has the required experience of design, construction, supply, installation, commissioning for a minimum of 50 KL/day capacity solvent recovery plant in a single location.

4. Design, construction, supply, installation, commissioning for Municipal Solid Waste Management facility

OR

A MoU by the Bidder with another agency that has the required experience of design, construction, supply, installation, commissioning for Municipal Solid Waste Management facility

Physical/Civil Infrastructure:

5. Construction of 2 or more lanes of Concrete or Bituminous Road of minimum length of 17 Km in a single location
6. Storm water drains /Road Drains and cross drainage works of a minimum length of 22Km in a single location.
7. Construction and Commissioning of a minimum 12 MLD capacity Water Treatment Plant (WTP) and network (water distribution and/or wastewater conveyance) of length 32 km in a single location.
8. Supply and installation of one number of 33/11 KV or higher size substation
9. Construction of RCC Buildings of a minimum of 3500 Sq.m and PEB of 2100 Sq.m in a single location.
 - ii. Satisfactorily completed works with more than 90 % of the value of the work has been completed duly certified by Client or by Chartered Accountant in case the bidder has undertaken construction works by itself.
 - iii. The Bidder must give self-declaration for having a minimum 60 number of Engineers (B.Tech/Diploma) /Experts on their Payroll in the last 2 years. The personnel must have the expertise having relevant experience in the Design and Construction of similar Projects with relevant experiences, who shall be deployed on the said project.
 - iv. Plant, Machinery and Equipment capacity: The Bidder must have owned assets or be on lease in Plant Machinery and Equipment not more than 8 (eight) years old. In case if the bidder doesn't own any of the following assets the Bidder shall submit an Affidavit stating that they would purchase new equipment within 3 months from the date of signing EPC Agreement.

S.NO	Equipment Details	Min. Numbers
1.	Excavators	5
2.	Automatic Batching Plant of 30 m ³ /hr	1
3.	Tandem Roller	4
4.	Pneumatic Tyre Rollers	3

S.NO	Equipment Details	Min. Numbers
5.	Concrete Pumps	4
6.	Boom Placer	1
7.	Concrete Transit Mixers	8
8.	Jib Cranes/eq.	4
9.	Electrofusion jointing machine for PE pipes	2
10.	Grader	4
11.	Vibratory Compactor / Roller	6
12.	Asphalt Concrete Plant (Hot Mix Plant) – 80 to 100 tones batch mix plants	1
13.	Tippers	20
14.	Water tanker	6
15.	Submerged Arc Welding Unit	10
16.	Automatic Welding Set	10
17.	Pneumatic Pumps for Hydro test	4
18.	Wet Mix Plant	1
19.	Pugmill	1
20.	Horizontal drilling machines	1
21.	Backhoe Loader	4
22.	Bitumen Boiler	1
23.	Bitumen distributor / Dispenser	1
24.	Bitumen Browser	1
25.	Kerb laying machine	1
26.	Hydra	2

S.NO	Equipment Details	Min. Numbers
27.	Any other relevant machinery	

The above list is indicative. Any equipment that the contractor deemed essential for carrying out the scope shall be mobilised the contractor at his own cost.

B- Financial Capacity:

- i. Net Worth: The Bidder shall have a minimum Net Worth (the “Financial Capacity”) of Rs. 310 Crores.(Rupees Three Hundred and Ten Crores Only) during the last 3 consecutive years balance sheets duly certified by a Statutory Auditor
- ii. The Bidder (Each member of the JV) should be financially sound and should not have applied for CorporateDebt Restructuring (CDR) and/ or should not be rated as default grade by Credit Rating agencies and/ or as per the RBI circular as on date of bid submission. (To be submitted as per Appendix XI)
- iii. Solvency: The bidder shall have an amount equal to Rs. 500 Crores (Rupees Five Hundred Crores Only) certified either by his Banker or through a Liquid Assets Certificate issued by a Statutory Auditor. The Certificate should not be older than six months from the date of submission of the bid.
- iv. The Bidder shall have an average Annual Turnover of Rs. 620 (Rupees Six Hundred Twenty Crores only) in the last 7 preceding financial years (To be submitted as per Appendix XII)

All the above-mentioned things should be certified by the Statutory Auditor of the company. The format for thesame is enclosed in Appendices.

2.2.3 In case of a Joint Venture (not exceeding 3 entities including the Lead Member):

The Threshold Technical Capacity and Financial Capacity of all the Members of the Joint Venture would betaken into account for satisfying the above conditions of eligibility as detailed below:

- i. The cited condition in 2.2.2 A (i, ii, iii) of the Technical Capacity above shall be met by the joint eligibilityor any Member of the Joint Venture.
- ii. Further, Lead Member shall meet at least 60% of the requirements of Technical Capacity required as per Clause 2.2.2 (A (i) and each of the other JV members shall meet at least 20% requirement of Technical capacity as per Clause 2.2.2 (A (i). For the avoidance of doubt, it is further clarified that the Joint Venture must collectively and individually satisfy the above qualification criteria i.e. JV shall cumulatively/collectively fulfil the above requirement.

- iii. Further, Lead Member shall meet at least 60% requirements of the Financial Capacity required as per Clause 2.2.2 (B) and each of the other JV members shall meet at least 20% requirement of Financial capacity as per Clause 2.2.2 (B) respectively. For the avoidance of doubt, it is further clarified that the Joint Venture must collectively and individually satisfy the above qualification criteria i.e. JV shall cumulatively/collectively fulfil the above requirement.

2.2.4 The Bidder shall enclose with its Bid, to be submitted as per the format at Appendix-IA, complete with its Annexes, the following:

- i. Certificate(s) from its statutory auditors or the concerned client(s) stating the payments received during the past 7 years, in respect of the Eligible Projects. In case a particular job/ contract has been jointly executed by the Bidder (as part of a Joint Venture), it should further support its claim for the payments received or construction carried out by itself in the Projects as applicable the share in work done for that particular job/ contract by producing a certificate from its statutory auditor or the client; and
- ii. Certificate(s) from its statutory auditors specifying the net worth of the Bidder, as at the close of the preceding financial year, and also specifying that the methodology adopted for calculating such net worth conforms to the provisions of this Clause. For the purposes of this RFP, net worth (the "Net Worth") shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.

2.2.5 The Bidder should submit a Power of Attorney as per the format in Appendix II, authorizing the signatory of the Bid to commit the Bidder. In the case of a Joint Venture, the Members should submit a Power of Attorney in favour of the Lead Member as per the format in Appendix III.

2.2.6 In case the Bidder is a Joint Venture, it shall comply with the following additional requirements:

- a. The number of members in a Joint Venture shall not exceed 3 (three) including Lead Member;
- b. subject to the provisions of clause (a) above, the Bid should contain the information required for each Member of the Joint Venture.
- c. as per the format in Appendix III, signed by all the other Members of the Joint Venture, The Bid should include a brief description of the roles and responsibilities of individual

members, particularly with reference to financial, technical and defects liability obligations.

- d. The Lead Member & other Members must have a minimum 60% & 20% share respectively in the proposed JV
- e. In the event, the Joint Venture is declared the selected Bidder and awarded the Project, it shall form a legal entity for entering into an EPC Agreement with the Employer for performing all its obligations as the Contractor in terms of the EPC Agreement for the Project
- f. The Lead Member & other Members' share shall never be below 60% & 20% respectively in the legal entity formed after the award of the Project, in case, the Project is awarded to the Joint Venture.
- g. In the event the Lead Member of the legal entity undergoes ownership change due to Merger and Acquisition, the new entity so formed shall continue to hold at least 60% share in the legal entity till the completion of the Construction Work.
- h. The Lead Member cannot sell or sublet or pledge its share to any new entity or the balance members till the completion of the Construction Work.
- i. An individual Bidder cannot at the same time be a member of a Joint Venture submitting for Bid. Further, a Member of a particular Bidder Joint Venture cannot be a Member of any other Bidder Joint Venture submitting for Bid;
- j. The Lead Member shall undertake and perform at least 60% Sixty Percent scope of the proposed Project.
- k. Members of the Joint Venture shall have entered into a binding Joint Bidding Agreement, substantially in the form specified in Appendix-IV (the "Jt. Bidding Agreement"), for the purpose of making the Bid and submitting a Bid. The Jt. Bidding Agreement, to be submitted along with the Bid, shall, inter alia:
 - i. convey the commitment(s) of the Lead Member in accordance with this RFP, in case the contract to undertake the Project is awarded to the Joint Venture;
 - ii. clearly outline the proposed roles and responsibilities, if any, of each member.
 - iii. commit the approximate shareholding of each member of the Joint Venture.
Shareholding
of each member of the Joint Venture should reflect the approximate Share of work to be undertaken by each member during the execution of the EPC Agreement;
 - iv. include a statement to the effect that all Members of the Joint Venture shall be

jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the RFP, and the EPC Agreement, till such time the EPC Agreement is signed. Upon signing of the EPC Agreement, the legal entity formed by the members of the Joint venture shall be responsible for all obligations and liabilities related to the Project; and

- v. except as provided under this RFP and the Bidding Documents, there shall not be any amendment to the Jt. Bidding Agreement without the prior written consent of the Employer.

2.2.7 Any entity which has been barred by State Government and any department of Andhra Pradesh Government including but not limited to R&B, Panchayat Raj, Irrigation, Public Health or undertaking or any Municipal Corporation or any other Corporation / Board / Society under the administrative control of these departments or state of Andhra Pradesh, or any entity controlled by it, from participating in any Project, and the bar subsists as on the date of Bid, would not be eligible to submit a Bid, either individually or as member of a Joint Venture.

2.2.8 A Bidder including any Member should, in the last 3 (three) years, have neither failed to perform on any contract, as evidenced by the imposition of a penalty by an arbitral or judicial Employer or a judicial pronouncement or arbitration award against the Bidder or Member, as the case may be nor has been expelled from any Project or contract by any public entity nor have had any contract terminated by any public entity for breach by such Bidder or Member in the state of Andhra Pradesh.

Note to be considered as essential: For clauses 2.2.3 to 2.2.8 above, it is to be added that the Bidder shall be either Individual or a legal entity like company, partnership firm or a combination of any of those to a maximum of three as a joint venture/consortium.

It is also to be added that: after legal entity as duly registered i.e. either as a partnership firm with registrar of firms or as a company with registrar of companies or otherwise as 'Joint venture/ consortium' with such nomenclature by duly registered after duly stamped with the Sub-registrar or district registrar of the area concerned-since all these are legal entities on any such compliance.

Same to be carried out in the entire RFP to the extent wherever required.

- 2.2.8.1 The Bidder including any Member shall provide details of all their ongoing Projects along with the stage of litigation or Arbitration cases, if so, against the Employer/Government.
- 2.2.8.2 The Bidder including any member shall provide details of the ongoing process of blacklisting if so, under any contract with the Employer / Government.
- 2.2.8.3 The Employer reserves the right to reject an otherwise eligible Bidder on the basis of the information provided under clause 2.2.8. The decision of the Employer, in this case, shall be final.
- 2.2.9** The Technical Capacity and Net Worth, Financial Turnover, Solvency of the Bidder / Members in case of Joint Venture shall be computed under Clauses 2.2.2 and 2.2.4 .
- 2.2.10** The following conditions shall be adhered to while submitting the Bid:
- a. Bidders should attach clearly marked and referenced continuation sheets in the event that the space provided in the prescribed forms in the Annexes is insufficient. Alternatively, Bidders may format the prescribed forms making due provision for the incorporation of the requested information.
 - b. information supplied by the Bidder (or other constituent Member if the Bidder is a Joint Venture) must be applicable to the Bidder, Member named in the Bid.;
 - c. in responding to the Bid submissions, Bidders should demonstrate their capabilities in accordance with Clause 3.1 below; and
 - d. in case the Bidder is a Joint Venture, each Member should substantially satisfy the Bid requirements to the extent specified herein.
- 2.2.11** While Qualification is open to persons from any country, the following provisions shall apply
- a. Where, on the date of the Bid, not less than 15% (fifteen per cent) of the aggregate issued, subscribed and paid-up equity share capital in a Bidder, or its Member is held by persons resident outside India or where a Bidder or its Member is controlled by persons resident outside India (Details are to be furnished in as prescribed); or
 - b. if at any subsequent stage after the date of the Bid, there is an acquisition of not less than 15% (fifteen per cent) of the aggregate issued, subscribed and paid up equity share capital or control, by a person resident outside India, in or of the Bidder or its Member; then the Qualification of such Bidder or in the event described in sub-clause (b) above, the continued Qualification of the Bidder shall be subject to the approval of the Employer from national security and public interest perspective. The decision of the Employer on this behalf shall be final and conclusive and binding on the Bidder.
1. The holding or acquisition of equity or control, as above, shall include direct or

indirect holding/ acquisition, including by transfer, of the direct or indirect legal or beneficial ownership or control, by persons acting for themselves or in concert and in determining such holding or acquisition, the Employer shall be guided by the principles, precedents and definitions contained in the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 1997, or any substitute thereof, as in force on the date of such acquisition.

2. The Bidder shall promptly inform the Employer of any change in the shareholding, as above, and failure to do so shall render the Bidder liable for disqualification from the Bidding Process.

2.2.12 Notwithstanding anything to the contrary contained herein, in the event that the Bid Due Date falls within three months of the closing of the latest financial year of a Bidder, it shall ignore such financial year for the purposes of its Bid and furnish all its information and certification with reference to the 7 (seven) years or 1 (one) year, as the case may be, preceding its latest financial year. For the avoidance of doubt, the financial year shall, for the purposes of a Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.

2.2.13 In computing the Technical Capacity of the Bidder along with it/their Associate under Clauses 2.2.2, the Technical Capacity of their respective Associate would also be considered hereunder.

For purposes of this RFP, Associate means, in relation to the Bidder/ Consortium Member, a person who controls, is controlled by, or is under the common control with such Bidder/ Consortium Member (the "Associate"). As used in this definition, the expression "control" means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law. It is clarified that a certificate from a qualified external auditor who audits the book of accounts of the Bidder shall be provided to demonstrate that a person is an Associate of the Bidder or the Consortium as the case may be.

2.3 Change in composition of the Joint Venture

2.3.1 Change in the composition of a Joint Venture will not be permitted by the Employer after the submission of the Bid.

2.4 Number of Bids and costs thereof

2.4.1 No Bidder shall submit more than one Bid for the Project. A Bidder applying individually or as a member of a Joint Venture shall not be entitled to submit another Bid either individually or as a member of any Joint Venture, as the case may be.

2.4.2 The Bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bid Process. The Employer will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

2.5 Site visit and verification of information

Bidders shall submit their respective Bids after acquainting themselves with the Project site and ascertaining themselves with the site conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for construction, access to the site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them. The bidder/Contractor along with qualified engineers of expertise must at his expense visit the site of the works contract and also the available quarries and sand points as well as sources of water etc. and make use / utilise the best of the available resources and obtain geo tag address of the site if any from the Employer in advance to the site visit as mentioned above and also upload the photographs of the said site visit. The leads of civil works be proposed separately with reference to the nearest approved quarries.

After submission of the Bid and issuance of Letter of Acceptance, no Contractor can claim that the Site Visit had not been properly made. It is deemed for all purposes that the Site Visit has been properly conducted by the contractor with any Technical Assistance required at their cost and with their men, and nothing contra is left open to raise any claim later.”

2.6 Acknowledgement by Bidder

2.6.1 It shall be deemed that by submitting a Bid, the Bidder has:

- a. made a complete and careful examination of the Bidding Documents and the prevailing site conditions.
- b. received all relevant information requested from the Employer.
- c. Accepted the risk of inadequacy, error or mistake in the information provided in the Bidding Documents or furnished by or on behalf of the Employer relating to any of the matters referred to in Clause 2.5 above.
- d. satisfied itself about all matters, things and information including matters referred to in Clause.

2.5 hereinabove necessary and required for submitting an informed Bid, execution of the Project in accordance with the Bidding Documents and performance of all of its obligations there under.

- e. acknowledged and agreed that inadequacy, lack of completeness or incorrectness of the information provided in the Bidding Documents or ignorance of any of the matters referred to in Clause 2.5 herein above shall not be a basis for any claim for compensation, damages, an extension of time for performance of its obligations, loss of profits etc. from the Employer, or a ground for termination of the Agreement by the Contractor;
- f. acknowledged that it does not have a Conflict of Interest; and
- g. agreed to be bound by the undertakings provided by it under and in terms hereof.

2.6.2 The Employer shall not be liable for any omission, mistake, or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP, the Bidding Documents, or the Bidding Process, including any error or mistake therein or in any information or data given by the Employer.

2.7 Right to accept or reject any or all Bids

2.7.1 Notwithstanding anything contained in this RFP, the Employer reserves the right to accept or reject any Bid and to annul the Bidding Process and reject all Bids at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons therefor. In the event that the Employer rejects or annuls all the Bids it may, in its discretion, invite all eligible Bidders to submit fresh Bids hereunder and as specified in Clause 2.21 of this RFP.

2.7.2 The Employer reserves the right to reject any Bid:

- a. at any time, a material misrepresentation is made or uncovered, or
- b. the Bidder does not provide, within the time specified by the Employer, the supplemental information sought by the Employer for evaluation of the Bid.

If the Bidder is a Joint Venture, then the entire Joint Venture and each Member of the Joint Venture may be disqualified/ rejected. If such disqualification/rejection occurs after the Bids have been opened and the Lowest Bidder gets disqualified/rejected, then the Employer reserves the right to

- i. invite the remaining Bidders to match the Lowest Bidder/ submit their Bids in accordance with clause 1.2.15; or
- ii. take any such measure as may be deemed fit in the sole discretion of the Employer, including annulment of the Bidding Processes.

2.7.3 In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of defects liability, subsistence thereof, that one or more of the pre-qualification conditions have not been met by the Bidder, or the

Bidder has made a material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Contractor either by issue of the LOA or entering into of the Agreement, and if the Selected Bidder has already been issued the LOA or has entered into the Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable for termination, by a communication in writing by the Employer to the Selected Bidder or the Contractor, as the case may be, without the Employer being liable in any manner whatsoever to the Selected Bidder or the Contractor. In such an event, the Employer shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to the Employer under the Bidding Documents and/ or the Agreement, or otherwise.

- 2.7.4** The Employer reserves the right to verify all Statements, information and documents submitted by the Bidder in response to the RFP. Any such verification or lack of such verification by the Employer shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of the Employer thereunder.

2.8 Content of Bidding Documents

- 2.8.1** This tender comprises the Disclaimer set forth hereinabove, the contents as listed below, and will additionally include any Addenda issued in accordance with Clause 2.9
- c. Volume 1: RFP
 - d. Volume 2: Technical Scope & Specifications
 - e. Volume 3: Tender Indicative Drawings
- 2.8.2** The Draft Contract Agreement provided by the Employer as part of the Bid Document shall be deemed to be part of this Tender.

2.9 Clarifications

- 2.9.1** Bidders requiring any clarification as mentioned under clause 1.4 on the RFP may notify the Employer in writing or by fax and e-mail in accordance with Clause 1.2.13. They should send in their clarifications on or before the date mentioned in the Schedule of Bidding Process specified in Clause 1.3. The Employer shall endeavour to respond to the clarifications within the period specified in clause 1.3. The responses will be sent by fax or e-mail. The Employer will forward all the clarifications and its responses thereto, to all Bidders without identifying the source of clarifications.
- 2.9.2** The Employer shall endeavour to respond to the questions raised or clarifications sought by the Bidders. However, the Employer reserves the right not to respond to any

question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring the Employer to respond to any question or to provide any clarification.

- 2.9.3** The Employer may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by the Employer shall be deemed to be part of the Bidding Documents. Verbal clarifications and information given by TheEmployer, or its employees or representatives shall not in any way or manner be binding on theEmployer.

2.10 Amendment of Bidding Documents

- 2.10.1** At any time prior to the deadline for submission of Bids, the Employer may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding documents by issuing addenda.
- 2.10.2** Any addendum thus issued shall be part of the Bidding documents and shall be communicated by email / online to all purchasers of the Bidding documents. Prospective Bidders shall acknowledge receipt of each addendum by online mode to the Employer within one working day of receipt. Even though the same is not acknowledged within the specified time it shall be deemedthat the addendum is received by the Bidder.
- 2.10.3** In order to afford the Bidders a reasonable time for taking an Addendum into account, or for anyother reason, the Employer may, in its sole discretion, extend the Bid Due Date.

2.11 Language of Bid

The Bid and all related correspondence and documents in relation to the Bidding Process shall be in the English language. Supporting documents and printed literature furnished by the Bidder with the Bid may be in any otherlanguage provided that they are accompanied by translations of all the pertinent passages in the English language, duly authenticated and certified by the Bidder. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Bid, the English language translation shall prevail.

2.12 Format and Signing of Bid

- 2.12.1** The Bidder shall provide all the information sought under this Tender. The Employer will evaluate only those Bids that are received online in the required formats and complete in all respects and payment of Bid Security, the processing fee is paid online and POA is received in hard copies. Incomplete and/or conditional Bids shall be liable to rejection.

2.12.2 The Bid shall be typed or written in indelible ink and shall be signed and sealed by a person or persons duly authorized to sign on behalf of the Bidder who shall also initial each page, in blue ink. All pages of the Bid and all entries where amendments have been made shall be initialed by the person or persons signing the Bid.

2.12.3 The Bid shall contain no alterations, omissions, or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the Bidder, in which case such corrections shall be numbered and initiated by the person or persons signing the Bid.

2.13 Sealing, Marking and submission of Bids

2.13.1 The Bidder shall submit the Technical and Financial Bid online through the e-procurement portal comprising of the following documents along with supporting documents as appropriate.

Technical Bid

- a) Appendix – IA (Letter comprising the Technical Bid) including Annexure I to VI and supporting certificates/documents including information requested in clause 2.2.2.
- b) Power of Attorney for signing the Bid as per the format in Appendix II;
- c) if applicable, Power of Attorney for Lead Member of Joint Venture as per the format in Appendix-III;
- d) applicable, Joint Bidding Agreement for Joint Venture as per the format in Appendix-IV
- e) Bid Security of Rs. 12.36 Crores (Twelve Crores and Thirty Six Lakh Rupees Only) in the form of Bank Guarantee in the format at Appendix-VI from the Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore);
- f) Cost of non-refundable tender processing fee of Rs. 3,70,000 (Three Lakhs Seventy Thousand Rupees Only) including applicable GST. To be paid through online only on www.apecurement.gov.in
- g) Signed Integrity Pact as per Appendix VII.
- h) Affidavit from Bidder for Non- Blacklisting and action under Indian Penal Code for false/ fraudulent documents as per Appendix VIII.
- i) Solvency Certificate for this project - Bank Certificate from any Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) as per Appendix IX. or liquid assets certificate from Statutory

Auditor.

- j) Copy of Memorandum and Articles of Association, if the Bidder is a body corporate, and if a partnership then a copy of its partnership deed.
- k) Copies of duly audited complete annual accounts of the Bidder or of each member (in case of Joint Venture) for preceding 7 years.
- l) Approach and Methodology with special emphasis on Construction method planning
- m) Work Plan and Resource Deployment Schedule
- n) MoUs with the agency for Specialised work mentioned in 2.2.2 A (ii) 2 to 4, if any
- o) Certificate from Statutory Auditor for the Associate

Financial Bid

Appendix-1B (Letter comprising the Financial Bid).

2.13.2 The documents supporting the Bid shall be submitted by the successful bidder (physically in a separate envelope marked as "Enclosures of the Bid"). The documents shall include:

- a) Original Power of Attorney for signing the Bid as per the format in Appendix II.
- b) if applicable, the original Power of Attorney for the Lead Member of the Joint Venture as per the format in Appendix III.
- c) if applicable, Original Joint Bidding Agreement for Joint Venture as per the format in Appendix IV.
- d) Bid Security of INR. 12.36 Crores (Twelve Crores and Thirty Six Lakh Rupees Only) in the form of original Bank Guarantee in the format at Appendix- VI from a Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore).
- e) Solvency Certificate for this project -Bank Certificate from any Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) as per Appendix IX. Or liquid assets certificate from Statutory Auditor
- f) Signed Integrity Pact as per Appendix VII.
- g) Affidavit from Bidder for Non- Blacklisting and action under Indian Penal Code for false/ fraudulent documents as per Appendix VIII.
- h) Copy of Memorandum and Articles of Association, if the Bidder is a body corporate, and if a partnership then a copy of its partnership deed.
- i) Copies of duly audited complete annual accounts of the Bidder or of each member (in case of Joint Venture) for preceding 7 years.

- j) Approach and Methodology with special emphasis on Construction method planning
- k) Work Plan and Resource Deployment Schedule
- l) MoUs with the agency for Specialised work mentioned in 2.2.2 A (ii) 2 to 4, if any
- m) Certificate from Statutory Auditor for the Associate
- n)

2.13.3 The envelope shall clearly bear the following identification:

Bid for Qualification: "Request for Proposal For Selection of bidder for Procure Design, Construction, on EPC Basis for Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh" and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right-hand corner of the envelopes.

2.13.4 The envelope shall be addressed to APIIC Andhra Pradesh Industrial Infrastructure Corporation.

The Chief Engineer (III), APIIC
Andhra Pradesh Industrial Infrastructure Corporation,
APIIC Towers, Plot No-1 (9th floor),
IT Park, Mangalagiri, Guntur (Dist), AP-522503

2.13.5 If the envelope is not sealed and marked as instructed above, the Employer assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.

2.13.6 Bids submitted by fax, telex, telegram or e-mail shall not be entertained and shall be rejected.

2.14 Bid Due Date

2.14.1 Technical and Financial BID comprising of the document listed in Clause 2.13.1 of the RFP shall be submitted online through the e-procurement portal on or before 1500 hours IST on the BID Due Date. Documents listed in Clause 2.13.2 of the RFP shall be physically submitted by the successful bidder at the address provided in Clause 2.13.4 in the manner and form as detailed in RFP. A receipt thereof should be obtained from the person specified in Clause 2.13.4.

2.14.2 The Employer may, in its sole discretion, extend the Bid Due Date by issuing an Addendum in

2.14.3 accordance with Clause 2.10 uniformly for all Bidders.

2.15 Late Bids



BIDs/ Enclosures of the BID received online through the e-procurement portal by the Employer after the specified time on the BID Due Date shall not be eligible for consideration and shall be summarily rejected.

2.16 Modifications/ Substitution/ Withdrawal of Bids

- 2.16.1** The Bidder may modify, substitute or withdraw its Bid after submission, provided that written notice of modification, substitution or withdrawal is received by the Employer prior to Bid Due Date. No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date & Time.
- 2.16.2** For modification of e-Bid, Bidder has to detach its old Bid from the e-procurement portal and upload/resubmit a digitally signed modified Bid. For withdrawal of the Bid, Bidder has to click on the withdrawal icon at the e-procurement portal apeprocurement.gov.in and can withdraw its e-Bid. Before withdrawal of a Bid, it may specifically be noted that after withdrawal of a Bid for any reason, Bidder cannot re-submit the e-Bid again.
- 2.16.3** Any alteration/modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by the Employer, shall be disregarded.

2.17 Opening and Evaluation of Bids

- 2.17.1** The Employer shall open the Bids at 1630 hours IST on the Bid Due Date, at the place specified in Clause 2.13.4 and in the presence of the Bidders who choose to attend. "If for any reason, the opening could not be done on Bid Due Date, the new date and time of opening shall be communicated separately."
- 2.17.2** Technical Bids of those Bidders, who have not submitted their Bid online, shall not be considered for opening and evaluation.
- 2.17.3** The Employer will subsequently examine and evaluate Technical Bids in accordance with the provisions set out in Section 3.
- 2.17.4** Bidders are advised that the qualification of Bidders will be entirely at the discretion of the Employer. Bidders will be deemed to have understood and agreed that no explanation or justification on any aspect of the Bidding Process or selection will be given.
- 2.17.5** To facilitate the evaluation of Technical Bids, the Employer may, at its sole discretion, seek clarifications in writing from any Bidder regarding its Technical Bid. Such clarification(s) shall be provided within the time specified by the Employer for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.

- 2.17.6** If a Bidder does not provide clarifications sought under Clause 2.17.5 above within the prescribed time, its Bid may be liable to be rejected. In case the Bid is not rejected, the Employer may proceed to evaluate the Bid by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of the Employer.
- 2.17.7** The Employer reserves the right to reject any Technical Bid which is non-responsive as per Clause 2.19 and no request for alteration, modification, substitution or withdrawal shall be entertained by the Employer in respect of such Bid.
- 2.17.8** Any information contained in the Bid shall not in any way be construed as binding on the Employer, its agents, successors or assigns, but shall be binding against the Bidder if the Project is subsequently awarded to it on the basis of such information.
- 2.17.9** The Employer reserves the right not to proceed with the Bidding Process at any time without notice or liability and to reject any or all Bid(s) without assigning any reasons.
- 2.17.10** If any information furnished by the Bidder is found to be incomplete, or contained in formats other than those specified herein, the Employer may, in its sole discretion, exclude the relevant Project from the computation of the Eligibility of the Bidder.
- 2.17.11** In the event that a Bidder claims credit for an Eligible Project, and such claim is determined by the Employer as incorrect or erroneous, the Employer shall reject such claim and exclude the same from the computation of the Eligibility of the Bidder. Where any information is found to be patently false or amounting to material misrepresentation, the Employer reserves the right to reject the Bid in accordance with the provisions of Clauses 2.7.2 and 2.7.3.
- 2.17.12** The Employer will get the Bid security verified by the issuing authority and after due verification, the Authority will evaluate the Technical Bids for their compliance with the eligibility and qualification requirements pursuant to Clause 2.2.1 & 2.2.2 of this RFP.
- 2.17.13** After the evaluation of Technical Bids, the Employer will publish a list of technically responsive Bidders whose financial Bids shall be opened. The Employer shall notify other Bidders that they have not been technically responsive. The Employer will not entertain any query or clarification from Bidders who fail to qualify.
- 2.17.14** The Employer shall inform the time of the online opening of the Financial Bids to the technically responsive Bidders through the e-procurement portal of the Employer and e-mail. The Employer shall online open the Financial Bids on the date and time. The Employer shall publish the lowest Bid Price quoted by the technically responsive Bidders. The Employer shall prepare a record of the opening of Financial Bids.

2.18 Confidentiality



Information relating to the examination, clarification, evaluation, and recommendation for the qualified Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising the Employer in relation to, or matters arising out of, or concerning the Bidding Process. The Employer will treat all information submitted as part of Bid, in confidence and will require all those who have access to such material to treat the same in confidence. The Employer may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or the Employer or as maybe required by law or in connection with any legal process.

2.19 Tests of responsiveness

2.19.1 Prior to the evaluation of Bids, the Employer shall determine whether each Bid is responsive to the requirements of the RFP. A Bid shall be considered responsive only if:

- i. It is received as per the format in Appendix-I (A) and 1(B).
- ii. It is received by the Bid Due Date including any extension thereof pursuant to Clause 2.14.2;
- iii. It is signed and submitted as stipulated in Clauses 2.12 and 2.13;
- iv. It is accompanied by the Power of Attorney as specified in Clause 2.2.5, and in the case of a Joint Venture, the Power of Attorney as specified in Clause 2.2.6 (c);
- v. It contains all the information and documents (complete in all respects) as requested in this RFP;
- vi. It contains information in formats the same as those specified in this RFP;
- vii. It contains certificates from its statutory auditors in the formats specified in Annexure-IV of the RFP for each Eligible Project;
- viii. It contains an online payment receipt of Rs.3,70,000/- (Rupees Three Lakhs, Seventy Thousand Only) as RFP processing fee (non-refundable) and Original Bank Guarantee of Bid Security as per Clause 1.2.5;
- ix. Solvency Certificate for this project - Bank Certificate from any Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) as per Appendix IX. Or liquid assets certificate from Statutory Auditor
- x. It is accompanied by the Jt. Bidding Agreement (for Joint Venture), specific

to the Project, as stipulated in Clause 2.2.6 (k);

- xi. It is accompanied by a Signed Integrity Pact as per Appendix VII.
- xii. It contains Affidavit from Bidder for Non- Blacklisting and action under Indian Penal Code for false/fraudulent documents as per Appendix VIII.
- xiii. It does not contain any condition or qualification; and
- xiv. It is not non-responsive in terms hereof.
- xv. Copy of Memorandum and Articles of Association, if the Bidder is a body corporate, and if a partnership then a copy of its partnership deed.
- xvi. Copies of duly audited complete annual accounts of the Bidder or of each member (in case of Joint Venture) for preceding 7 years.
- xvii. Approach and Methodology with special emphasis on Construction method planning
- xviii. Work Plan and Resource Deployment Schedule
- xix. MoUs with the agency for Specialised work as mentioned in 2.2.2 A (ii) 2 to 4, if any
- xx. Certificate from Statutory Auditor for the Associate

2.19.2 The Employer reserves the right to reject any Bid which is non-responsive and no request for alteration, modification, substitution, or withdrawal shall be entertained by the Employer in respect of such Bid.

2.20 Clarification of Bids

2.20.1 To facilitate the evaluation of Bids, the Employer may, at its sole discretion, seek clarifications from any Bidder regarding its Bid. Such clarification(s) shall be provided within the time specified by the Employer for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing but no change in the price or substance of the Bid shall be sought, offered or permitted, except to get additional information to fully understand the proposals of the Bidder and to confirm that the requirements of the Bidding documents will be met.

2.20.2 If a Bidder does not provide clarifications sought under Clause 2.20.1 above within the prescribed time, its Bid shall be liable to be rejected. In case the Bid is not rejected, the Employer may proceed to evaluate the Bid by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of the Employer.

2.21 Selection of Bidder



- 2.21.1** Subject to the provisions of Clause 2.7 the Bidder whose Bid is adjudged as responsive in terms of Clause 2.19 and who quotes lowest price as per the reverse tendering procedure mentioned under Clause 1.2.15 shall be declared as the selected Bidder (the "Selected Bidder").
- 2.21.2** Deleted
- 2.21.3** In the event that the Employer rejects or annuls all the Bids, it may, at its discretion, invite all eligible Bidders to submit fresh Bids hereunder.
- 2.21.4** Deleted.
- 2.21.5** Deleted.
- 2.21.6** Deleted.
- 2.21.7** After selection, a Letter of Award (the "LOA") shall be issued, in duplicate, by the Employer to the Selected Bidder and the Selected Bidder shall, within 3 (Three) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acknowledgement thereof. In the event the duplicate copy of the LOA duly signed by the Selected Bidder is not received by the stipulated date, the Employer may, unless it consents to an extension of time for submission thereof, appropriate the Bid Security of such Bidder as Damages on account of the failure of the Selected Bidder to acknowledge the LOA.
- 2.21.8** After acknowledgement of the LOA as aforesaid by the Selected Bidder, it shall cause the Bidder to execute the Agreement within the period prescribed in Clause 1.3. The Selected Bidder shall not be entitled to seek any deviation, modification, or amendment in the Agreement.

2.22 Proprietary data

All documents and other information supplied by the Employer or submitted by a Bidder to the Employer shall remain or become the property of the Employer. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for the preparation and submission of their Bid. The Employer will not return any Bid or any information provided along therewith.

2.23 Correspondence with the Bidder

Save and except as provided in this RFP, the Employer shall not entertain any correspondence with any Bidder in relation to the acceptance or rejection of any Bid.

2.24 Contacts during Bid Evaluation

Bids shall be deemed to be under consideration immediately after they are opened

and until such time the Employer makes official intimation of award/ rejection to the Bidders. While the Bids are under consideration, Bidders and/ or their representatives or other interested parties are advised to refrain, save and except as required under the Bidding Documents, from contacting by any means, the Employer and/ or their employees/representatives on matters related to the Bids under consideration.

2.25 Other Conditions

- 2.25.1** A Bidder is eligible to submit only one Bid for the Project. A Bidder Bidding individually or as a lead member of a Joint Venture shall not be entitled to submit another Bid either individually or as a member of any Joint Venture, as the case may be.
- 2.25.2** Notwithstanding anything to the contrary contained in this RFP, the detailed terms specified in the draft Agreement shall have overriding effect; provided, however, that any conditions or obligations imposed on the Bidder hereunder shall continue to have effect in addition to its obligations under the Agreement.
- 2.25.3** The Bidding Documents including this RFP and all attached documents are and shall remain the property of the Employer and are transmitted to the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for the preparation and submission of their Bid. The Employer will not return any Bid, or any information provided along therewith.
- 2.25.4** This RFP is not transferable.
- 2.25.5** Any award of concession pursuant to this RFP shall be subject to the terms of Bidding Documents.
- 2.25.6** Quality Control experience: In the availability of the full time Key personnel, at least 20% of them shall be with experience in Quality Control.
- 2.25.7** Details of the arrangements and methods: The Bidder shall, whenever required by the Employer/Authority, submit details of the arrangements and methods which the Bidder proposes to adopt for the execution of the contract works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Employer and obtain written permission in advance.
- 2.25.8** Manuals for availability: One copy of the plans, drawings, specifications, bill of quantities and any other supplementary data complete with all the latest revisions thereto if any, besides Manual for procurement of works (updated June-2022), by GoI Ministry of Finance Department of Expenditure, Model RFQ document published by Planning Commission, GoI, CPW code, MORTH specifications, complete set of Indian Standard specifications referred to in "Technical Specifications" and A.P.D.S.S. and

APWD Code shall be kept at Site by the Contractor for reference and the same shall at all reasonable time be available for inspection and use by the Engineer-in-Charge any other Officers of the Employer. Likewise, an order book and management and review meetings book and written instruction if any, shall be kept at the site of the Work. As far as possible, all orders regarding the Work are to be entered in the order book. All entries shall be signed and dated by the Department Officer direct charge of the Work and by the Contractor or by his representative, when required. In important cases, the Engineer-in-Charge or the Employer will countersign the entries, which have been made. The order book shall not be removed from the Site, except with the written permission of the Engineer-in-Charge.

- 2.25.9** Genuineness of Bank Guarantee: It is the duty of the Bidder/contractor to coordinate with the employer/authority and the banker to give response by banker to the letter of employer to bank on genuineness of bank guarantee. The banker shall be intimated that without letter of employer/authority, the bank guarantee cannot be revoked during its validity period.
- 2.25.10** Professional Tax & AP GST Registrations: The Bidder/ Contractor shall submit AP GST Registration after letter of Award and before entering the contract. Also submit proof of payment of professional tax which is mandatory as per G.O.Ms.No.44, WR(R) Dept.,dt.09-09-2021, as per Cir.Memo.No.ICD01-COOR/167/ Reforms/ 2020-2,dt.09-09-2021, i.e. the bidder is required to submit proof of payment of annual professional tax for the previous year by duly uploading the same and to produce the original when required as part of the eligibility criteria in the bid evaluation.
- 2.25.11** Availability of Key and Critical Equipment: Availability of (Either own or leased-with written proof of owning with registration or written lease agreement as the case may be and in case of lease, the lease period shall be for a period not less than 24 months covering the contract period to count from date of LOA followed by contract agreement and with a provision that in case of any extensions of time of completion the lease shall be under taken to be extended till completion & commissioning.
- 2.25.12** Management Review meetings: The contractor shall attend for the weekly review meeting with the field engineer/ Engineer-in-charge on every Monday & Monthly review meeting with the Chief Engineer (III) on every month first Monday to review the progress of the work.
- 2.25.13** Communication shall be in writing: The contractor shall make any communication with the employer or his assignee or subordinates including the Engineer-in-charge only in writing and no oral communication can be made and for no oral communication can be claimed with any value or sanctity.

2.26 Bid Security



- 2.26.1** The Bidder shall furnish as part of its Bid, a Bid Security referred to in Clause 1.2.5 hereinabove in the form of an irrevocable and unconditional Bank Guarantee issued by a Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) in India, in favor of the Employer in the format at Appendix-VI (the “Bank Guarantee”) and having a validity period of not less than 240 days (Two Hundred and Forty days) from the Bid Due Date, inclusive of a claim period of 60 (Sixty) days, as may be extended by the Bidder from time to time. In case the Bank Guarantee is issued by a foreign bank outside India, confirmation of the same by any nationalized bank in India is required. For the avoidance of doubt, Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) shall mean a bank as defined under Section 2(e) of the Reserve Bank of India Act, 1934.
- 2.26.2** Bid Security can also be furnished by the Bidder in the form of a demand draft drawn on a Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore) in India, drawn in favor of The Chief Engineer (III), Andhra Pradesh Industrial Infrastructure Corporation, payable at Mangalagiri, Guntur (Distt.) (the “Demand Draft”). The Employer shall not be liable to pay any interest on the Bid Security deposit so made and the same shall be interest-free.
- 2.26.3** Any Bid not accompanied by the Bid Security shall be rejected by the Employer as non-responsive.
- 2.26.4** The Bid Security of unsuccessful Bidders will be returned by the Employer, without any interest, as promptly as possible upon signing an agreement with the selected Bidder or when the Bidding Process is cancelled by the Employer. Where Bid Security has been paid by deposit, the refund thereof shall be in the form of an account payee demand draft in favor of the unsuccessful Bidder.
- Bidders may give specific instructions in writing to the Employer to give the name and address of the person in whose favor the said Demand Draft shall be drawn by the Employer for refund, failing which it shall be drawn in the name of the Bidder and shall be mailed to the address given on the Bid.
- 2.26.5** The Selected Bidder’s Bid Security will be returned, without any interest, upon the Bidder signing the EPC Contract and furnishing the Performance Security in accordance with the provisions thereof.
- 2.26.6** The Employer shall be entitled to forfeit and appropriate the Bid Security as Damages inter alia in any of the events specified in Clause 2.26.7 herein below. The Bidder by submitting its Bid pursuant to this RFP, shall be deemed to have acknowledged and confirmed that the Employer will suffer loss and damage on account of withdrawal of its Bid or for any other default by the Bidder during the period of Bid validity as specified in this RFP. No relaxation of any kind on Bid Security shall be given to any Bidder.

2.26.7 The Bid Security shall be forfeited and appropriated by the Employer as damages payable to the Employer for, inter alia, time, cost and effort of the Employer without prejudice to any other right or remedy that may be available to the Employer under the Bidding Documents and/or under the Agreement or otherwise, under the following conditions:

- a) If a Bidder submits a non-responsive Bid;
- b) If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in Section 4 of this RFP;
- c) If a Bidder withdraws its Bid during the period of Bid validity as specified in this RFP and as extended by mutual consent of the respective Bidders and the Employer;
- d) In the case of Selected Bidder, if it fails within the specified time limit
 - i. To sign and return the duplicate copy of the LOA;
 - ii. To sign the EPC Contract; or
 - iii. To furnish the Performance Security within the period prescribed therefore the EPC Contract; or
- e) In case the Selected Bidder, having signed the EPC Contract, commits any breach thereof prior to furnishing the Performance Security.

3 Criteria for Evaluation

3.1.1 Evaluation parameters

3.1.2 Only those Bidders who meet the eligibility criteria specified in Clause 2.2.1 above shall qualify for evaluation under this Section 3. Bids of firms/ Joint Venture who do not meet these criteria shall be rejected.

3.1.3 The Bidder's competence and capability to be established by the following parameters:

- a) Technical Capacity; and
- b) Financial Capacity

3.2 Deleted

3.3 Details of Experience

3.3.1 The Bidder should furnish the details of Eligible Experience for the last 7 (seven) financial years immediately preceding the Bid Due Date.

3.3.2 The Bidders must provide the necessary information relating to Technical Capacity as per the format in Annexure II of Appendix-IA.

3.3.3 The Bidder should furnish the required Project-specific information and evidence in support of its claim of Technical Capacity, as per the format in Annexure-IV of Appendix- IA.

3.4 Financial information for purposes of evaluation

3.4.1 The Bid must be accompanied by the Audited Annual Reports of the Bidder (of each Member in case of a Joint Venture) for the last 7 (seven) financial years, preceding the year in which the Bid is made.

3.4.2 In case the annual accounts for the latest financial year are not audited and therefore the Bidder cannot make it available, the Bidder shall give an undertaking to this effect and the statutory auditor shall certify the same. In such a case, the Bidder shall provide the Audited Annual Reports for 7 (seven) years preceding the year for which the Audited Annual Report is not being provided.

3.4.3 The Bidder must establish the minimum Net Worth, Financial Turnover and Solvency specified in Clause 2.2.2 (B), and provide details as per the format in Annexure-III of Appendix-IA.

3.5 Qualification of Bidders

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- 3.5.1** The credentials of eligible Bidders shall be measured in terms of their Experience. All Bidders who fulfil the conditions of eligibility specified in Clause 2.2.2 and meet the other conditions specified in this RFP shall be qualified.
- 3.5.2** The Bidders meeting the qualification requirements as per this RFP shall be notified officially after due verification of their credential information in support of qualification.
- 3.5.3** The Bidders meeting the qualification criteria shall be eligible for opening the financial Bids.

4 Fraud and Corrupt Practices

The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process and subsequent to the issue of the LOA and during the subsistence of the Agreement. Notwithstanding anything to the contrary contained herein, or in the LOA or the Agreement, the Employer may reject a Bid, withdraw the LOA, or terminate the Agreement, as the case may be, without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder or the Contractor, as the case may be, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, the Employer shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to the Employer under the Bidding Documents and/or the Agreement, or otherwise.

Without prejudice to the rights of the Employer hereinabove and the rights and remedies which the Employer may have under the LOA or the Agreement, or otherwise if a Bidder or Contractor, as the case may be, is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, or after the issue of the LOA or the execution of the Agreement, such Bidder or Contractor shall not be eligible to participate in any tender or RFP issued by the Employer during a period of 2 (two) years from the date such Bidder, or Contractor, as the case may be, is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

For the purposes of this Section 4, the following terms shall have the meaning hereinafter respectively assigned to them:

- a) "Corrupt practice" means
 - i. the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for the avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Employer who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the LOA or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Employer, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or
 - ii. save and except as permitted under Clause 2.2.1 of this RFP, engaging in any manner

whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Contract Agreement, who at any time has been or is a legal, financial or technical adviser of the Employer in relation to any matter concerning the Project;

- b) “Fraudulent practice” means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
- c) “Coercive practice” means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bidding Process;
- d) “Undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by the Employer with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest;
- e) “Restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Bidders restrict or manipulate a full and fair competition in the Bidding Process.

5 Pre-Bid Conference

Does not arise for tenders covered under Judicial Preview Process

The pre-bid shall be confined only for clarifications and not to make any modifications to the Judicial Preview Process undertaken and findings given, and compliance made in Form-III of the Andhra Pradesh Infrastructure (Transparency Through Judicial Preview) Act, 2019 of Judicial Preview Process. The prospective bidder can submit objections or suggestions in the Request for Proposal (RFP) during the time given in the Judicial Preview Process & cannot seek later at the time of Clarifications.

6 Miscellaneous

- 6.1.1** The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Amaravati, (Andhra Pradesh) shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process.
- 6.1.2** The Employer, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;
- suspend and/ or cancel the Bidding Process and/ or amend and/ or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
 - consult with any Bidder to receive clarification or further information;
 - pre-qualify or not to pre-qualify any Bidder and/ or to consult with any Bidder in order to receive clarification or further information;
 - retain any information and/ or evidence submitted to the Employer by, on behalf of, and/ or in relation to any Bidder; and/ or
 - independently verify, disqualify, reject and/ or accept any and all submissions or other information and/ or evidence submitted by or on behalf of any Bidder.
- 6.1.3** It shall be deemed that by submitting the Bid, the Bidder agrees and releases the Employer, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder and the Bidding Documents, pursuant hereto, and/ or in connection with the Bidding Process, to the fullest extent permitted by applicable law, and waives any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- 6.1.4** Integrity Pact (IP)
- Bidder shall submit the Integrity pact (Appendix-VII) duly signed by the Authorized signatory with the RFP Bid & shall be part of the EPC Agreement;

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Part C: Appendices

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APPENDIX IA: Letter Comprising the Technical Bid

To,

The Chief Engineer (III), APIIC

Andhra Pradesh Industrial Infrastructure Corporation

APIIC Towers, Plot No-1 (9th floor),

IT Park, Mangalagiri, Guntur (Dist), AP-522503

Sub: Bid for Tender dated [date] "Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis."

Dear Sir,

With reference to your RFP document dated we, having examined the document and understood its contents, hereby submit our Bid for the aforesaid Project. The Bid is unconditional and unqualified. We acknowledge that the Employer reserves the right of "Assignment" of ownership during the Bid process or after the award of the contract, to SIA which is informed as elaborated in clause no. 1.1.2.

- 1) We undertake to fully co-operate with The Employer for any documentation Legally enforceable for recognition and effectuation of such transfer of ownership.
- 2) We acknowledge that the Employer will be relying on the information provided in the Bid and the documents accompanying such Bid for the selection of the Bidders for the aforesaid Project, and we certify that all information provided in the Bid and in Annexes I to IV is true and correct; nothing has beenomitted which renders such information misleading; and all documents accompanying such Bid are truecopies of their respective originals.
- 3) This Statement is made for the express purpose of qualifying as a Bidder for the Design and constructionof the aforesaid Project during the Defects Liability Period.
- 4) We shall make available to the Employer any additional information it may find necessary or require to supplement or authenticate the Qualification Statement.
- 5) We acknowledge the right of the Employer to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
- 6) We certify that in the last three years, any of the Joint Venture Members have neither failed to perform on any contract, as evidenced by the imposition of a penalty by an arbitral or judicial Employer or a judicial pronouncement or arbitration award, nor been expelled from any Project or contract by any public Employer nor have had any contract terminated by any public Employer for

breach on our part in the state of Andhra Pradesh.

- 7) We declare that:
 - a) We have examined and have no reservations to the RFP document, including any Addendum issued by the Employer.
 - b) We do not have any conflict of interest in accordance with Clauses 2.2.1 (c) of the RFP document; and
 - c) We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in Section 4 or obstructive practice as defined in Appendix V of the RFP document, of any tender or request for proposal issued by or any agreement entered into with the Employer or any other public sector enterprise or any Government, ; and
 - d) We hereby certify that we have taken steps to ensure that in conformity with the provisions of Section 4 of the RFP document, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice, or restrictive practice.
- 8) We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the Project, without incurring any liability to the Bidders, in accordance with Clause 2.17.9 of the RFP document.
- 9) We believe that we/ our Joint Venture/ proposed Joint Venture satisfy (i.e.) the Net Worth criteria and meet(s) all the requirements as specified in the RFP document and are qualified to submit a Bid.
- 10) We declare that we/ any Member of the Joint Venture is not a Member of / any other Joint Venture or other entity applying for Bid on the principle of one bidder for one bid.
- 11) We certify that in regard to matters other than the security and integrity of the country, we/ any Member of the Joint Venture have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory Employer which could cast doubt on our ability to undertake the Project or which relates to a grave offence that outrages the moral sense of the community.
- 12) We further certify that in regard to matters relating to the security and integrity of the country, we/ any Member of the Joint Venture have not been charge-sheeted by any agency of the Government or convicted by a Court of Law.
- 13) We further certify that no investigation by a regulatory Employer is pending either against us/ any Member of the Joint Venture or against our CEO or any of our directors/ managers/ employees.
- 14) We further certify that we/ any Member of the Joint Venture is not barred by State Government and any department of Andhra Pradesh Government including but not limited to R&B, Panchayat Raj,

Irrigation, Public Health or undertaking or any Municipal Corporation or any other Corporation / Board / Society under the administrative control of these departments or state of Andhra Pradesh has:

- i. Cancelled or suspended registration in last five years and not revoked up to the date of bid submission.
 - ii. Blacklisted the Contractor
 - iii. Debarred the contractor for participating in future tendering or any entity controlled by it, from participating in any Project (EPC or otherwise), and that no bar subsists as of the date of Bid.
- 15) We further certify that we are qualified to submit a Bid in accordance with the guidelines for qualification of Bidders seeking to acquire stakes in Public Sector Enterprises through the process of disinvestment issued by the GOI vide Department of Disinvestment OM No. 6/4/2001-DD-II dated 13th July 2001 which guidelines apply mutatis mutandis to the Bidding Process. A copy of the aforesaid guidelines forms part of the RFP in Appendix V thereof.
 - 16) We undertake that in the case due to any change in facts or circumstances during the Bidding Process, we are attracted by the provisions of disqualification in terms of the provisions of this RFP, we shall intimate the Employer of the same immediately.
 - 17) The Statement of Legal Capacity as per the format provided in Annexure -V in Appendix-IA of the RFP document, and duly signed, is enclosed. The power of attorney for the signing of the Bid and the power of attorney for the Lead Member of the Joint Venture, as per the format provided in Appendix II and III respectively of the RFP, is also enclosed.
 - 18) We certify that the {Bidder} is an existing Company incorporated under the Indian Companies Act, 1956 & 2013.
 - 19) We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Employer in connection with the selection of Bidders, selection of the Bidder, or in connection with the selection / Bidding Process itself, in respect of the above mentioned Project and the terms and implementation thereof.
 - 20) The documents accompanying the Technical Bid, as specified in Clause 2.13.1 of the RFP, have been submitted in separate files.
 - 21) We offer a Bid Security of Rs. ----- (Rupees ----- only) to the Employer in accordance with the RFP Document.
 - 22) The Bid Security in the form of a Bank Guarantee is attached.
 - 23) We agree and undertake to abide by all the terms and conditions of the RFP document.

-
- 24) We certify that in terms of the RFP, our Net Worth is Rs (Rupees. In words)
 - 25) We undertake to engage personnel specialized/ sub-Contractors for the Design and construction of those elements of the Project for which we do not have adequate experience.
 - 26) {We agree and undertake to be jointly and severally liable for all the obligations of the Contractor under the EPC Agreement.}
 - 27) We hereby submit our Bid and offer a Bid Price as indicated in Financial Bid for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement.
 - 28) We shall keep this offer valid for 180 (one hundred and eighty) days from the Bid Due Date specified in the RFP.

In witness thereof, we submit this Bid under and in accordance with the terms of the RFP document.

Yours faithfully,

Authorized Signature [In full and initials]: Name and
Title of Signatory:

Name of Firm:

Address:

(Name and seal of the Bidder/Member in Charge)

ANNEXURE I: Details of Bidder

- 1)
 - a) Name
 - b) Country of incorporation
 - c) Address of the corporate headquarters and its branch office(s), if any, in India:
 - d) Date of incorporation and/ or commencement of business
- 2) Brief description of the Company including details of its main lines of business and proposed role and responsibilities in this Project:
- 3) Details of individual(s) who will serve as the point of contact/ communication for the Employer:
 - a) Name
 - b) Designation
 - c) Company
 - d) Address
 - e) Telephone number
 - f) E-mail address
 - g) Fax Number
- 4) Particulars of the Authorized Signatory of the Bidder
 - a) Name
 - b) Designation
 - c) Address
 - d) Telephone number
 - e) Fax Number
- 5) In case of a Joint Venture
 - a) The information above (1-4) should be provided for all the Members of the Joint Venture.
 - b) A copy of the Jt. Bidding Agreement, as envisaged in Clause 2.2.6 (k) should be attached to the Bid.
 - c) Information regarding the role of each Member should be provided as per the table below:

Sl.No	Name of Member	Role* {Refer Clause 2.2.6 (c)}\$	Share of work in theProject {Refer Clauses 2.2.6 (a), & (e) & (g)}
1			
2			
3			

3. * The role of each Member, as may be determined by the Bidder, should be indicated in accordance with instruction 4 in **Annexure-IV**

- d) The following information shall also be provided for each Member of the Joint Venture: Name of Bidder/ member of Joint Venture:

Sl.No.	Criteria	Yes	No
1.	Has the Bidder/ constituent of the Joint Venture been barred by the [Government of Andhra Pradesh, or any entity controlled by it, from participating in any Project (BOT, EPC or DB etc.)?]		
2.	If the answer to 1 is yes, does the bar subsist as on the date of the Bid?		
3.	Has the Bidder/ constituent of the Joint Venture paid liquidated damages of more than 5% of the contract value in a contract due to delay or has been penalized due to any other reason in relation to the execution of a contract, in the last three years?		
4	Has the Bidder/constituent of the JV applied for CDR as on date?		

- e) The updated following information w.r.t para 2.2.8 for the Bidder and each Member of the Joint Venture:

Name of Bidder/ member of Joint Venture:

Sl. No	Criteria	1 st Last year	2 nd lastyear	3 rd lastyear
1	If Bidder has either failed to perform on any contract, as evidenced by the imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder or any of its Joint Venture Member, as the case may be, or has been expelled from any Project or contract by any entity controlled by Government of Andhra Pradesh nor have had any contract terminated by any entity controlled by Government of Andhra Pradesh for breach by such Bidder or any of its Joint Venture Member			
2	Updated details of the stage of litigation, if so, against the Authority / Governments on all the ongoing Projects of the Bidder or any of its Joint Venture Members.			
3	Updated details of the ongoing process of blacklisting if so, under any contract with the Authority / Government of Andhra Pradesh on the Bidder including any of its Joint Venture members.			

6. A Statement by the Bidder and each of the Members of its Joint Venture (where applicable) disclosing material non-performance or contractual non-compliance in past Projects, contractual disputes and litigation/ arbitration in the recent past is given below (Attach extra sheets, if necessary):

ANNEXURE II: Technical Capacity of Bidder[@]

Bidder type	Project Code*	Payments received for construction of Eligible Projects	Value of construction in Eligible Projects
(1)	(2)	(3)	(4)
Single entity Bidder or Lead Member including other members of the Joint Venture/other entity/Associates	A		
	B		
	C		
	D		
	E		
	F		

[@] Provide details of only those Projects that have been undertaken by the Bidder, or its Lead member including members in case of Joint Venture, under its own name separately and/ or by a Project company. In case the Bid Due Date falls within 3 (three) months of the close of the latest financial year, refer to Clause 2.2.12.

* Refer to Annexure-IV of this Appendix-IA. Add more rows if necessary.

** Construction shall not include the supply of goods or equipment except when such goods or equipment form part of a turn-key construction contract/ EPC Contract for the Project. In no case shall the cost of maintenance and repair, operation of Roads, water, drainage and sewerage sectors and the land be included while computing the Experience.

\$\$ For conversion of US Dollars to Rupees, the rate of conversion shall be as per RBI notified rate as under the prevailing rate on 31st March of the corresponding financial year. In case of any other currency, the same shall be converted to the prevailing rate of US Dollars of the corresponding year and the amount so derived in US dollars shall be converted into Rupees (as per RBI notified rate as under prevailing rate on 31st March of the corresponding year).

NOTE:

In case of a Joint Venture, information in Annexure-II and Annexure-IV of Appendix- IA shall be provided separately for other Members also so as to establish that each such Member has 20 per cent or more of the Threshold Technical Capacity. Such information may be provided as Annexure-IIA, Annexure-IIB, Annexure- IVA and Annexure- IVB, respectively. (Refer Clause 2.2.3).

ANNEXURE III: Financial Capacity of the Bidder (Net Worth)

Bidder Type	Net Cash Accruals					Net Worth [£]
	Year 1	Year 2	Year 3	Year 4	Year 5 to 7 (Add separate columns)	Year 1
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Single entity Bidder or Lead Member including other members of the Joint Venture or other entity						
TOTAL						

Name & address of Bidder's Bankers:

\$ For conversion of other currencies into rupees see note below Annexure-II of Appendix-IA.

£ The Bidder should provide details of its own Financial Capacity. Instructions:

- 1) The Bidder shall attach copies of the balance sheets, Financial Statements and Annual Reports for 7 (seven) years preceding the Bid Due Date. The Financial Statements shall:
 - a) reflect the financial situation of the Bidder;
 - b) be audited by a statutory auditor;
 - c) be complete, including all notes to the Financial Statements; and
 - d) correspond to accounting periods already completed and audited (no Statements for partial periods shall be requested or accepted).
- 2) Net Cash Accruals shall mean Profit After Tax + Depreciation.
- 3) Net Worth shall mean the aggregate value of the paid-up share capital and all reserves of their respective associates created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of

revaluation of assets, write-back of depreciation and amalgamation.

- 4) Year 1 will be the latest completed financial year, preceding the Bidding. Year 2 shall be the year immediately preceding Year 1 and so on. In case the Bid Due Date falls within 3 (three) months of the close of the latest financial year, refer to Clause 2.2.12.
- 5) In the case of a Joint Venture, a copy of the Jt. Bidding Agreement shall be submitted in accordance with Clause 2.2.6 (k) of the RFP document.
- 6) The Bidder shall also provide the name and address of the Bankers to the Bidder.
- 7) The Bidder shall provide an Auditor's Certificate specifying the net worth of the Bidder and also specifying the methodology adopted for calculating such net worth in accordance with Clause 2.2.4 (ii) of the RFP document.

ANNEXURE IV: Details of Projects

Item (1)	Refer Instruction (2)	Particulars of the Project (3)
Title & Nature of the Project		
Client Name		
Year-wise (a) payments received for construction, and/or (b) revenues appropriated for self-construction under EPC Projects	6	
Entity for which the Project was constructed	7	
Location		
Project cost	8	
Date of commencement of Project/contract		
Date of completion/ commissioning	9	
Equity shareholding (with the period during which equity was held)	10	
Statutory Auditor /Client Certificate enclosed(Yes / No)		

Instructions:

- 1) Bidders are expected to provide information in respect of each Project in this Annex. The Projects cited must comply with the eligibility criteria specified in Clauses 2.2.2 of the RFP, as the case may be. Information provided in this section is intended to serve as a backup for information provided in the Bid. Bidders should also refer to the Instructions below.
- 2) The Project Codes would be a, b, c, d etc.
- 3) A separate sheet should be filled out for each Eligible Project.
- 4) In case the Eligible Project relates to other Members, write "Member."

- 5) The total payments received and/or revenues appropriated for self-construction for each Eligible Project are to be Stated in Annex-II of this Appendix-IA. The figures to be provided here should indicate the break-up for the past 7 (seven) financial years. Year 1 refers to the financial year immediately preceding the Bid Due Date; Year 2 refers to the year before Year 1, Year 3 refers to the year before Year 2, and so on (Refer Clause 2.2.12). Receipts for construction works should only include capital expenditure and should not include expenditure on maintenance & repair and operation of Project.
- 6) In the case of Projects, particulars such as name, address and contact details of owner/ Employer/ Agency (i.e. concession grantor, counterparty to concession, etc.) may be provided.
- 7) Provide the estimated capital cost of each Project.
- 8) For eligible projects, the date of commissioning of the Project, upon completion, should be indicated. In the case of Projects under construction, the likely date of completion or commissioning, as the case may be, shall be indicated.
- 9) For projects, the equity shareholding of the Bidder, in the company owning the Eligible Project, held continuously during the period for which Eligible Experience is claimed, needs to be given
- 10) Experience for any activity relating to a Project shall not be claimed twice. In other words, no double counting in respect of the same experience shall be permitted in any manner whatsoever.
- 11) Certificate from the Bidder's statutory auditor \$ or its respective clients must be furnished as per the formats below for each Project. In jurisdictions that do not have statutory auditors, the auditors who audit the annual accounts of the Bidder may provide the requisite certification.

Certificate from the Statutory Auditor/ Client regarding construction works

Based on its books of accounts and other published information authenticated by it, {this is to certify that (Name of the Bidder) was engaged by (Title of the Project company) to execute (Name of Project) for (Nature of Project)}. The construction of the Project commenced on (Date) and the Project was/ is likely to be commissioned on (Date, if any). It is certified that Bidder received payments from its

Clients for Construction Works executed by them, in the aforesaid construction works. We further certify that the total estimated capital cost of the Project is Rs..... cr. (Rupees crore), of which the Bidder received Rs cr. (Rupees crore), of the RFP during the past seven financial years as per year-wise details noted below:

.....

.....

It is further certified that the receipts indicated above are restricted to the share of the Bidder who undertook these works as a partner or a member of a Joint Venture/consortium.

We further certify that Bidder has a share of _% in the Joint Venture/Consortium. Name of the audit firm: Seal of the audit firm: (Signature, name and designation of the authorized signatory).

Date:

Provide a Certificate as per this format only. Attach Explanatory Notes to the Certificate, if necessary. A statutory auditor means the entity that audits and certifies the annual accounts of the company.

This certification should be struck out in case of jobs/ contracts, which are executed by a sole firm. The payments indicated in the certificate should be restricted to the share of Bidder in such partnership/ Joint Venture. This portion may be omitted if the contract did not involve a partnership/ Joint Venture. In case where work is not executed by partnership/ Joint Venture, this paragraph may be deleted.

- 12) It may be noted that in the absence of any detail in the above certificates, the information would be considered inadequate and could lead to the exclusion of the relevant Project in the computation of the Experience of the Bidder.
- 13) The Bidder should submit a certificate obtained from the statutory Auditor of the company regarding the financial capacity in accordance with Clause 2.2.2(B) of the RFP document.

ANNEXURE V: Statement of Legal Capacity

(To be forwarded on the letterhead of the Bidder/ Lead Member of Joint Venture)

Ref. Date:

To,

Dear Sir,

We hereby confirm that we/ our members in the Joint Venture (the constitution of which has been described in the Bid) satisfy the terms and conditions laid out in the RFP document.

We have agreed that (insert member’s name) will act as the LeadMember of our Joint Venture.*

We have agreed that..... (insert individual’s name) will act as our representative/ will act as the representative of the Joint Venture on its behalf* and has been duly authorized to submit the RFP. Further, the authorized signatory is vested with requisite powers to furnish such a letter and authenticate the same.

Thanking you,

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of.....

*Please strike out whichever is not applicable.



ANNEXURE VI: Information to evaluate the Bid Capacity

Information required to evaluate the Bid Capacity under clause 2.2.1(g) To calculate the value of "A"

1. A table containing the value of Works with respect to Projects (EPC Contract / Item Rate Contract / Construction works under PPP / BOT) undertaken by the Bidder during the last 7 years is as follows:

2. Maximum value of Projects—that have been undertaken during the FY ___ out of the last 7 years and the value thereof is Rs _____ Crores (Rupees). Further, the value updated to the price level of the year indicated in the Appendix is as follows:

Sl.No	Year	Value of Works undertaken w.r.t. Projects (Rs. in Crores)	Updation factor	Updated value
1	2023-2024		1.0	
2	2022-2023		1.05	
3	2021-2022		1.21	
4	2020-2021		1.33	
5	2019-2020		1.46	
6	2018-2019		1.61	
7	2017-2018		1.77	
8	2016-2017		1.95	

Rs. Crores x (Updation Factor as per the below table) = Rs. Crores (Rupees)

S. No.	Name of Project / Work	% of participation of Bidder in the Project	The stipulated period of completion as per the Agreement /LOA	Value of contract as per Agreement /LOA	Value of work completed	Balance value of work to be Completed	Anticipated date of completion	Balance value of work at 2023-24 price level
1	2	3	4	Rs. In Crore	Rs. In Crore	Rs. In Crore	8	Rs. in Crore
1	2	3	4	5	6	7	8	9(3x7x#)

For and on behalf of

Name of the Statutory Auditor's firm:

Seal of the audit firm: (Signature, name and designation and Membership No. of authorized signatory)(Name of the Bidder)

To calculate the value of "B"

A table containing the value of all the existing commitments and ongoing workings to be completed during the next years is as follows:

Updation factor as given below:

For Year	F.Y / Calendar Year	Updation Factor
Base	2023-2024	1.0
-1	2022-2023	1.1
-2	2021-2022	1.21
-3	2020-2021	1.33

For Year	F.Y / Calendar Year	Updation Factor
-4	2019-2020	1.46
-5	2018-2019	1.61
-6	2017-2018	1.77
-7	2016-2017	1.95

The Statement showing the value of all existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works mentioned above is verified from the certificate issued by the Statutory Auditor in respect of EPC Projects or Concessionaire / Authorized Signatory of the Employer in respect of PPP/BOT Projects.

Signature, Name and designation of Authorized Signatory

Name of the Statutory Auditor's firm; Seal of the audit firm: (Signature, name and designation and Membership No. of authorized signatory)

For and on behalf of (Name of the Bidder)

APPENDIX IB: Letter comprising the Financial Bid

Ref:

Dated:

Sub: Financial Bid for Tender dated [date] for “Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis.”

Dear Sir,

With reference to your RFP document dated -----, I/we, having examined the Bidding Documents

and understood their contents, hereby submit my/our Bid for the aforesaid Project. The Bid is unconditional and unqualified.

- 1) I/ We acknowledge that the Employer will be relying on the information provided in the Bid and the documents accompanying the Bid for the selection of the Contractor for the aforesaid Project, and we certify that all information provided in the Bid is true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the Bid are true copies of their respective originals.
- 2) The Bid Price has been quoted by me/us after taking into consideration all the terms and conditions stated in the RFP, draft Agreement, our own estimates of costs and after a careful assessment of the site and all own the conditions that may affect the Project cost and implementation of the Project.
- 3) I/ We acknowledge the right of the Employer to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
- 4) In the event of my/ our being declared as the Selected Bidder, I/we agree to enter into an Agreement in accordance with the draft that has been provided to me/us prior to the Bid Due Date. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.
- 5) I / We shall keep this offer valid for 180 (one hundred and Eighty) days from the Bid Due Date specified in the RFP.
- 6) I / We hereby submit our Bid and offer a Bid Price (which is exclusive of Operation and Maintenance costs and exclusive of GST) of Rs.(Rs..... in words) for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement. The Breakup of the above price is attached to this letter (Contractor to submit breakup which shall commensurate with Schedule C - Contract Price Weightages in this tender).

Yours faithfully,

Date:

(Signature, name and designation of
the Place: Authorized Signatory)

Name & seal of Bidder/LeadMember:

Class III DSC ID of Authorized Signatory:

APPENDIX II: Power of Attorney for Signing the Bid

Know all men by these presents, we (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. (name), son/daughter/wife of and presently residing at, who is presently employed with us/ the Lead Member of our Joint Venture and holding the position of, as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for the ***** Project proposed or being developed by the ***** (the "Employer") including but not limited to signing and submission of all applications, Bids and other documents and writings, participate in Pre-Bid and other conferences and providing information/ responses to the Employer, representing us in all matters before the Employer, signing and execution of all contracts including the agreement and undertakings consequent to acceptance of our Bid, and generally dealing with the Employer in all matters in connection with or relating to or arising out of our Bid for the said Project and/ or upon award thereof to us and/or until the entering into of the EPC Agreement with the Employer. AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in the exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in the exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,, THE ABOVENAMED PRINCIPAL HAVE EXECUTED THIS POWER

OF ATTORNEY ON THIS.....DAY OF.....20.....

For

(Signature, name, designation, and address)

Witnesses:

1. _____ 2. _____

Accepted (Signature)

(Name, Title and Address of the Attorney) (Notarized) Person identified by me/ personally appeared before me/Seal of the Notary Registration No. of the Notary



Date:

Notes:

1. *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure by duly stamped & registered, or notarized as per the Laws of India & A.P.*
2. *Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/power of attorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*
3. *For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague.*

Legislation Convention 1961 is not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.

APPENDIX III: Format for Power of Attorney for Lead Member of Joint Venture

Whereas the ***** ("Employer") has invited Bids from prequalified Bidders for the ***** Project (the "Project"). Whereas,, and..... (collectively the "Joint Venture") being Members of the Joint Venture are interested in Bidding for the Project in accordance with the terms and conditions of the "RFP" and other Bid documents including agreement in respect of theProject, and

Whereas it is necessary for the Members of the Joint Venture to designate one of them as the Lead Member withall necessary power and the Employer to do for and on behalf of the Joint Venture, all acts, deeds and things asmay be necessary in connection with the Joint Venture's Bid for the Project and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, having our registered office at, M/s..... having our registered office at, and M/s having our registered office at (hereinafter collectively referred to as the "Principals") do hereby irrevocably designate, nominate, constitute, appoint and authorize M/shaving its registered office at... ,being one of the Members of the Joint Venture, as the Lead Member and true and lawful attorney of the Joint Venture (hereinafter referred to as the "Attorney"). We hereby irrevocably authorize the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the Joint Venture and any one of us during the BiddingProcess and, in the event the Joint Venture is awarded the contract, during the execution of the Project and in this regard, to do on our behalf and on behalf of the Joint Venture, all or any of such acts, deeds or things as arenecessary or required or incidental to the pre- qualification of the Joint Venture and submission of its Bid for the Project, including but not limited to signing and submission of all applications, Bids and other documents and writings, participate in pre Bid and other conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of the Bid of the Joint Venture and generallyto represent the Joint Venture in all its dealings with the Employer, and/ or any other Government Agency or anyperson, in all matters in connection with or relating to or arising out of the Joint Venture's Bid for the in all respect Project and/ or upon award thereof till the EPC Agreement is entered into with the Employer .

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in the exercise of the powers conferred by this Power ofAttorney and that all acts, deeds and things done by our said Attorney in the exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/ Joint Venture.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OFATTORNEY ON THIS DAY OF 20...



For

(Signature) (Name & Title) For
.....

(Signature) (Name & Title)

Witnesses:

- 1.
- 2.

(Executants)

(To be executed by all the Members of the Joint Venture)

Notes:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure by duly stamped, registered, or notarized as per the Laws of India & A.P
- Also, wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/power of attorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.
- For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 is not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.

APPENDIX IV: Format for Joint Bidding Agreement for Joint Venture

(To be executed on Stamp paper of appropriate value)

THIS JOINT BIDDING AGREEMENT is entered into on this the day of20....

AMONGST

1) {Limited, a company incorporated under the Companies Act, 1956 & 2013} or such other specified legal entity and having its registered office at..... (Hereinafter referred to as the "First Part" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2) {.....Limited, a company incorporated under the Companies Act, 1956 & 2013} or such other specified legal entity and having its registered office at (hereinafter referred to as the "Second Part" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

3) {..... Limited, a company incorporated under the Companies Act, 1956 & 2013 or such other specified legal entity and having its registered office at..... (hereinafter referred to as the "Third Part" which expression shall, unless repugnant to the context include its successors and permitted assigns)}

The above-mentioned parties of the FIRST, {SECOND and THIRD} PART are collectively referred to as the "Parties" and each is individually referred to as a "Party"

WHEREAS,

a) [....., incorporated under the Act

....., represented by its and having its principal offices at.....] (hereinafter referred to as the

"Employer" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has invited Bids (the Bids") by its Request for Qualification & Request for Proposal No. dated..... (the "RFQ cum RFP") for of Bidders Project (the "Project") through an EPC Agreement.



- b) The Parties are interested in jointly Bidding for the Project as members of a Joint Venture and in accordance with the terms and conditions of the RFP document and other Bid documents in respect of the Project, and
- c) It is a necessary condition under the RFP document that the members of the Joint Venture shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Bid.

NOW IT IS HEREBY AGREED as follows:

1) Definitions and Interpretations

In this Agreement, the Capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFP.

2) Joint Venture

- i. The Parties do hereby irrevocably constitute a Joint Venture (the "Joint Venture") for the purposes of jointly participating in the Bidding Process for the Project.
- ii. The Parties hereby undertake to participate in the Bidding Process only through this Joint Venture and not.

individually and/ or through any other Joint Venture constituted for this Project, either directly or indirectly.

3) Covenants

The Parties hereby undertake that in the event the Joint Venture is declared the selected Bidder and awarded the Project, it shall form a legal entity for entering into an EPC Agreement with the Employer for performing all its obligations as the Contractor in terms of the EPC Agreement for the Project.

4) Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below:

- a) Party of the First Part shall be the Lead member of the Joint Venture and shall have the Power of Attorney from all Parties for conducting all business for and on behalf of the Joint Venture during the Bidding Process and until the Signing of the EPC Agreement when all the obligations of the legal entity as Contractor shall become effective;
- b) Party of the Second Part shall be {the Member of the Joint Venture; and}
- c) {Party of the Third Part shall be the Member of the Joint Venture.}d)

5) Joint and Several Liability

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the RFP, and the EPC Agreement, till such time the EPC Agreement is signed. Upon signing of the EPC Agreement, the

legal entity formed by the Members of the Joint Venture shall be responsible for all obligations and liabilities related to the Project

6) Share of work in the Project

- a) The Parties agree that the proportion of shareholding among the Parties in the legal entity shall be as follows:

First Party:

Second Party:

{Third Party:}

- b) The Parties undertake that the Lead Member and other Members of the Joint Venture at all times during the entire period of the Agreement shall continue to hold a minimum shareholding of 60% and 20% respectively in the legal entity. No change in the composition or ownership of the legal entity shall be allowed during the period of the Agreement.

7) Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

- a) Such Party is duly organized, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement;
- b) The execution, delivery and performance by such Party of this Agreement has been authorized by all necessary and appropriate corporate or Governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favor of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Joint Venture Member is annexed to this Agreement, and will not, to the best of its knowledge:
- i. require any consent or approval not already obtained;
 - ii. violate any Applicable Law presently in effect and having applicability to it;
 - iii. violate the memorandum and articles of association, by-laws or other applicable organizational documents thereof;
 - iv. violate any clearance, permit, concession, grant, license or other Governmental authorization, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or

- v. create or impose any liens, mortgages, pledges, claims, security interests, charges or Encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;
- c) this Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and
- d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its Affiliates is a party that presently affects, or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this Agreement.

8) Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until the signing of the EPC Agreement by the legal entity in case the Project is awarded to the Joint Venture. However, in case the Joint Venture does not get selected for award of the Project, the Agreement will stand terminated in case the Bidder is not selected or upon return of the Bid Security by the Employer to the Bidder, as the case may be.

9) Miscellaneous

- i. This Joint Bidding Agreement shall be governed by the laws of {India}.
- ii. The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Employer.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED SIGNED, SEALED AND DELIVERED

For and on behalf of

LEAD MEMBER by:

SECOND PART

(Signature)

(Signature)



(Name)

(Name)

(Designation)

(Designation)

(Address)

(Address)

SIGNED, SEALED AND DELIVERED

For and on behalf of THIRD PART

(Signature) (Name) (Designation) (Address)

In the presence of:

1. (Signature &Name)
2. (Signature & Name)

Notes:

- 1) The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- 2) Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution/power of attorney in favor of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Joint Venture Member.
- 3) For a Joint Bidding Agreement executed and issued overseas, the document shall be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney has been executed.

APPENDIX V: Guidelines of the Department of Disinvestment

(Refer to Clause 1.2.2)

No. 6/4/2001-DD-II

Government of India

Department of Disinvestment

Block 14, CGO Complex

New Delhi.

Dated 13th July 2001.

OFFICE

MEMORANDUM

Sub: Guidelines for qualification of Bidders seeking to acquire stakes in Public Sector Enterprises through the process of disinvestment Government has examined the issue of framing comprehensive and transparent guidelines defining the criteria for Bidders interested in PSE-disinvestment so that the parties selected through competitive Bidding could inspire public confidence. Earlier, criteria like net worth, experience etc. used to be prescribed. Based on experience and in consultation with concerned departments, Government has decided to prescribe the following additional criteria for the qualification/ disqualification of the parties seeking to acquire stakes in public sector enterprises through disinvestment:

- a) In regard to matters other than the security and integrity of the country, any conviction by a Court of Law indictment/ adverse order by a regulatory authority that casts doubt on the ability of the Bidder to manage the public sector unit when it is disinvested, or which relates to a grave offence would constitute disqualification. The grave offence is defined to be of such a nature that it outrages the moral sense of the community. The decision in regard to the nature of the offence would be taken on case to case basis after considering the facts of the case and relevant legal principles, by the Government of India.
- b) In regard to matters relating to the security and integrity of the country, any charge- sheet by an agency of the Government/ conviction by a Court of Law for an offence committed by the Bidding party or by any sister concern of the Bidding party would result in disqualification. The decision in regard to the relationship between the sister concern would be taken, based on the relevant facts and after examining whether the two concerns are substantially controlled by the same person/ persons.
- c) In both (a) and (b), disqualification shall continue for a period that Government deems appropriate.

- d) Any entity, which is disqualified from participating in the disinvestment process, would not be allowed to remain associated with it or get associated merely because it has preferred an appeal against the order based on which it has been disqualified. The mere pendency of appeal will have no effect on the disqualification.
- e) The disqualification criteria would come into effect immediately and would apply to all Bidders for various disinvestment transactions, which have not been completed as yet.
- f) Before disqualifying a concern, a Show Cause Notice why it should not be disqualified would be issued to it and it would be given an opportunity to explain its position.
- g) Henceforth, these criteria will be prescribed in the advertisements seeking Expression of Interest (EOI) from the interested parties. The interested parties would be required to provide the information on the above criteria, along with their Expressions of Interest (EOI). The Bidders shall be required to provide with their EOI an undertaking to the effect that no investigation by a regulatory authority is pending against them. In case any investigation is pending against the concern or its sister concern or against its

CEO or any of its Directors/ Managers/ employees, full details of such investigation including the name of the investigating agency, the charge/ offence for which the investigation has been launched, name and designation of persons against whom the investigation has been launched and other relevant information should be disclosed, to the satisfaction of the Government. For other criteria also, a similar undertaking shall be obtained along with EOI.

Sd/- (A.K. Tewari)

Under Secretary to the Government of India

APPENDIX VI: Bank Guarantee for Bid Security

(Refer to Clause 1.2.5)

B.G. No.

Dated:

- 1) In consideration of AP Bulk Drug Infrastructure Corporation Limited (APBDICL), represented by the Chief Engineer (III), Andhra Pradesh Industrial Infrastructure Corporation Limited, having its office in Guntur (Distt.), (hereinafter referred to as the Employer, which expression shall unless it be repugnant to the subject or context thereof include its, successors and assigns) having agreed to receive the Bid of ***** and having its registered office at (And acting on behalf of its JV) (hereinafter referred to as the "Bidder" which expression shall unless it be repugnant to the subject or context thereof include its/their executors, administrators, successors and assigns), for Request for Proposal for "Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis." (hereinafter referred to as "the Project") pursuant to the RFP Document dated issued in respect of the Project and other related documents including without limitation the draft contract Agreement (hereinafter collectively referred to as "Bidding Documents"), we (Name of the Bank) having our registered office at and one of its branches at (hereinafter referred to as the "Bank"), at the request of the Bidder, do hereby in terms of Clause 1.2.5 of the RFP Document, irrevocably, unconditionally and without reservation guarantee the due and faithful fulfilment and compliance of the terms and conditions of the Bidding Documents (including the RFP Document) by the said Bidder and unconditionally and irrevocably undertake to pay forthwith to the Employer an amount of Rs. ----- (Rupees ----- only) (hereinafter referred to as the "Guarantee") as our primary obligation without any demur, reservation, recourse, contest or protest and without reference to the Bidder if the Bidder shall fail to fulfil or comply with all or any of the terms and conditions contained in the said Bidding Documents.
- 2) Any such written demand made by the Employer stating that the Bidder is in default of the due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents shall be final, conclusive and binding on the Bank.
- 3) We, the Bank, do hereby unconditionally undertake to pay the amounts due and payable under this Guarantee without any demur, reservation, recourse, contest or protest and without any reference to the Bidder or any other person and irrespective of whether the claim of the Employer is disputed by the Bidder or not, merely on the first demand from the Employer stating that the amount claimed is due to the Employer by reason of the failure of the Bidder to fulfil and comply with the terms and conditions contained in the Bidding Documents including failure of the said Bidder to keep its Bid open during the Bid validity period as set forth in the said Bidding Documents for any reason whatsoever. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not

exceeding Rs (In Words)

- 4) This Guarantee shall be irrevocable and remain in full force for a period of 240 (Two Hundred and Forty days) from the Bid Due Date inclusive of a claim period of 60 (Sixty) days or for such extended period as may be mutually agreed between the Employer and the Bidder, and agreed to by the Bank, and shall continue to be enforceable till all amounts under this Guarantee have been paid.
- 5) We, the Bank, further agree that the Employer shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Bidding Documents, and the decision of the Employer that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Employer and the Bidder or any dispute pending before any Court, Tribunal, Arbitrator or any other.
- 6) The Guarantee shall not be affected by any change in the constitution or winding up of the Bidder or the Bank or any absorption, merger or amalgamation of the Bidder or the Bank with any other person.
- 7) In order to give full effect to this Guarantee, the Employer shall be entitled to treat the Bank as the principal debtor. The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee from time to time to vary any of the terms and conditions contained in the said Bidding Documents or to extend time for submission of the Bids or the Bid validity period or the period for conveying acceptance of Letter of Award by the Bidder or the period for fulfilment and compliance with all or any of the terms and conditions contained in the said Bidding Documents by the said Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said Bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the said Bidding Documents or the securities available to the Employer, and the Bank shall not be released from its liability under these presents by any exercise by the Employer of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Bidder or by any change in the constitution of the Employer or its absorption, merger or amalgamation with any other person or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of releasing the Bank from its such liability.
- 8) Any notice by way of request, demand or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.
- 9) We undertake to make the payment on receipt of your notice of claim on us addressed to [name of Bank along with branch address] and delivered at our above branch which shall be deemed to have been duly authorized to receive the said notice of claim.
- 10) It shall not be necessary for the Employer to proceed against the said Bidder before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank, notwithstanding



any other security which the Employer may have obtained from the said Bidder or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealized.

- 11) We, the Bank, further undertake not to revoke this Guarantee during its currency except with the previous express consent of the Employer in writing.
- 12) The Bank declares that it has the power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorized and has full power to execute this Guarantee for and on behalf of the Bank.
- 13) For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to Rs The Bank shall be liable to pay the said amount or any part thereof only if the Employer serves a written claim on the Bank in accordance with paragraph 9 hereof, on or before [***(indicate date falling 240 days after the Bid Due Date)]

Signed and Delivered by Bank

By the hand of Mr. /Ms., it's an Authorized Official.

(Signature of the Authorized Signatory)

APPENDIX VII: Integrity Pact Format

(To be executed on plain paper and submitted along with Technical Bid/Tender documents as per Clause 2.13) This integrity Pact is made at ___ on this day of __20__.

BETWEEN

The AP Bulk Drug Infrastructure Corporation Limited represented by the Chief Engineer (III), Andhra Pradesh Industrial Infrastructure Corporation Limited, APIIC Towers, Plot No-1 (9th floor), IT Park, Mangalagiri, Guntur (Dist.), AP-522503 (hereinafter referred to as the “Employer” which expressions shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns)

AND

{Name and address of the Firm/Company}, (hereinafter referred to as “Bidder” and which expression shall unless repugnant to be meaning or context thereof include its successors and permitted assigns.)

Preamble

Whereas, the Employer has floated the Tender {NIT No... dated...} (hereinafter referred to as “Tender/Bid”)

and intends to award, under laid down organizational procedure, contract/s for Request for Proposal for “Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis.” (hereinafter referred to as the “Contract”).

And Whereas the Employer values full compliance with all relevant laws of the land, rules of the land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder.

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as “Integrity Pact” or “Pact”) the terms and conditions of which shall also be read as an integral part and parcel of the Tender documents and contract between the parties.

Now, therefore, in consideration of mutual covenants contained in this pact, the parties hereby agree as follows and this pact witnesses as under:

Article-1: Commitments of the Employer

- 1) The Employer commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - a) No employee of the Employer, personally or through family members, will in connection with the Tender for, or the execution of a Contract, demand, take a promise for or accept, for self, or third person, any material or immaterial benefit which the person is not legally entitled to.

- b) The Employer will, during the Tender process treat all Bidder with equity and reason. The Employer will in particular, before and during the Tender process, provide to all Bidder the same information and will not provide to any Bidder confidential/ additional information through which the Bidder could obtain an advantage in relation to the tender process or the contract execution.
 - c) The Employer will exclude all known prejudiced persons from the process, whose conduct in the past has been of biased nature.
- 2) If the Employer obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Employer will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/Regulations.

Article- 2: Commitments of the Bidder.

The Bidder commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- 1) The Bidder will not, directly or through any other person or firm, offer, promise or give to any of the Employer's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2) The Bidder will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contract, submission or non-submission Bids or any other actions to restrict competitiveness or to introduce cartelization in the Bidding process.
- 3) The Bidder will not commit any offence under the relevant IPC/PC Act and other Statutory Acts; further, the Bidder will not use improperly, for purposes of completion or personal gain, or pass on to others, any information or document provided by the Employer as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 4) The Bidder of foreign origin shall disclose the name and address of the Agents/ Representatives in India, if any. Similarly, the Bidder of Indian Nationality shall furnish the name and address of the foreign principal, if any.
- 5) The Bidder will, when presenting his Bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for

such payments.

- 6) The Bidder will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 7) The Bidder will not bring any outside influence through any Govt. bodies/quarters directly or indirectly on the Bidding process in furtherance of his Bid.

Article- 3: Disqualification from the tender process and exclusion from future contracts.

- 1) If the Bidder, before award or during execution has committed a transgression through a violation of any provision of Article- 2, above or in any other form such as to put his reliability or credibility in question, the Employer is entitled to disqualify the Bidder from the tender process.
- 2) If the Bidder has committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Employer shall be entitled to exclude including blacklisting and put on holiday the Bidder for any future tenders/ contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Employer taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a maximum of 3 years.
- 3) A transgression is considered to have occurred if the Employer after due consideration of the available evidence concludes that "On the basis of facts available there are no material doubts."
- 4) The Bidder with its free consent and without any influence agrees and undertakes to respect and uphold the Employer's absolute rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.
- 5) The decision of the Employer to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder shall be final and binding on the Bidder, however, the Bidder can approach IEM(s) appointed for the purpose of this Pact.
- 6) On the occurrence of any sanctions/ disqualification etc. arising out from violation of the integrity pact, the Bidder shall not be entitled to any compensation on this account.
- 7) Subject to the full satisfaction of the Employer, the exclusion of the Bidder could be revoked by the Employer if the Bidder can prove that he has restored/ recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article – 4: Compensation for Damages.



- 1) If the Employer has disqualified the Bidder from the tender process prior to the award according to Article- 3, the Employer shall be entitled to suspend the Bidder for participation in the tendering process for the work of NICDIT and work under other Centrally Sponsored Schemes for a period of One Year from the Bid due date of this work apart from any other legal right that may have accrued to the Employer.
- 2) In addition to 1 above, the Employer shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to the Contractor's Default. In such case, the Employer shall be entitled to forfeit the Performance Bank Guarantee of the Contractor and/ or demand and recover liquidated and all damages as per the provisions of the contract agreement against Termination.

Article – 5: Previous Transgressions

- 1) The Bidder declares that no previous transgressions occurred in the last 3 years immediately before signing of this Integrity Pact with any other Company in any country conforming to the anti-corruption/ Transparency International (TI) approach or with any other Public Sector Enterprise/ Undertaking in India or any Government Department in India that could justify his exclusion from the tender process.
- 2) If the Bidder makes an incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgressions of Article-2 and shall be liable for compensation for damages as per Article-4 above.

Article – 6: Equal treatment of all Bidders.

- 1) The Bidder undertake(s) to demand from all JV members a commitment in conformity with this Integrity Pact, and to submit it to the Employer before contract signing.
- 2) The Employer will enter into agreements with identical conditions as this one with all Bidders.
- 3) The Employer will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

Article – 7: Criminal charges against violating Bidder.

If the Employer obtains knowledge of the conduct of a Bidder, or of an employee or a representative or an associate of a Bidder, which constitutes corruption, or if the Employer has substantive suspicion in this regard, the Employer will inform the same to the Chief Vigilance Officer.

Article- 8: Independent External Monitor (IEM)

- 1) The Employer has appointed as Independent External Monitor (herein after referred to as "Monitor") for this Pact. The task of the Monitor is to review independently and objectively,

whether and to what extent the parties comply with the obligations under this agreement.

- 2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chief Execution Officer, National Industrial Corridor Development Corporation.
 - 1) The Bidder accepts that the Monitor has the right to access without restriction to all project documentation of the Employer including that provided by the Bidder. The Bidder will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Sub-Contractors. The Monitor is under a contractual obligation to treat the information and documents of the Bidder with confidentiality.
 - 2) The Employer will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Employer and the Contractor. The parties offer the Monitor the option to participate in such meetings.
 - 3) As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Management of the Employer and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
 - 4) The Monitor will submit a written report to the Chief Execution Officer, National Industrial Corridor Development Corporation within 8 to 10 weeks from the date of reference or intimation to him by the Employer and, should the occasion arise, submit proposals for correcting problematic situations.
 - 5) If the Monitor has reported to the Chief Execution Officer, National Industrial Corridor Development Corporation, a substantiated suspicion of an offence under the relevant IPC/PC Act, and the Chief Execution Officer, National Industrial Corridor Development Corporation has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
 - 6) The word 'Monitor' would include both singular and plural.

Article – 9: Pact Duration

This Pact begins when both parties have legally signed it (in the case of EPC i.e. for projects funded by Employer and consultancy services). It expires for the Contractor, 12 months after his Defect Liability Period is over or 12 months after his last payment under the contract whichever is later and for all other unsuccessful Bidders, 6 months after this Contract has been awarded.

If any claim is made/ lodged during his time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by Chief Execution Officer, National Industrial Corridor Development Corporation.

Article – 10: Other Provisions.

- 1) This pact is subject to Indian Law. The place of performance and jurisdiction is the Office of the Employer, i.e., Mangalagiri, Andhra Pradesh.
- 2) Changes and supplements as well as termination notices need to be made in writing.
- 3) If the Bidder is in a Joint Venture, this pact must be signed by all JV members.
- 4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement on their original intentions.
- 5) Any disputes/ differences arising between the parties with regard to the term of this pact, any action taken by the Employer in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.
- 6) The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provision of the extent law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this Pact at the place and date first done mentioned in the presence of the following witness: -

For & On behalf of the Employer

For & On behalf of the Bidder

(Office Seal)

Place _____

Date _____

Witness 1:

(Name and Address)

Witness 2:

(Name and Address)

Countersigned and Accepted By:

APPENDIX VIII: Affidavit from Bidder for Non- Blacklisting and action under Indian Penal Code for false/ fraudulent documents

(Affidavit to be uploaded and hard copy to be submitted by Bidder as per Clause 2.13 and in case of JV, by leadmember & all Joint Ventures members on Rs.500/- stamp paper duly notarized.)

Name of work-

I _____ age _____

address _____(Authorized signatory to sign the contract), hereby submit, vide this affidavit in truth, that I am the owner of the contracting firm___/ authorized signatory and I am submitting the documents for the purpose of scrutiny of the contract. I hereby agree to the conditions mentioned below:-

- 1) Certify that all the statements made in the required attachments are true and correct.
- 2) The undersigned also hereby certifies that neither our firm M/s-----
-PAN No. have abandoned any work nor any contract awarded to us for such works have been rescinded,during last seven years prior to the date of this Bid in the state of Andhra Pradesh.
- 3) The undersigned hereby authorize (s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
- 4) I, the undersigned declare that as on date neither our company is blacklisted/banned, nor by State Government and any department of Andhra Pradesh Government including but not limited to R&B, Panchayat Raj, Irrigation, Public Health or undertaking or any Municipal Corporation or any other Corporation / Board / Society under the administrative control of these departments or state of Andhra Pradesh has:
 - i. Cancelled or suspended registration in last five years and not revoked up to the date of bid submission.
 - ii. Blacklisted the Contractor
 - iii. Debarred the contractor for participating in future tendering or any entity controlled by it, from participating in any Project (EPC or otherwise), and that no bar subsists as of the date of Bid.
- 5) The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Department, Project implementing agency within the time frame as specified in this document.
- 6) I am liable for action under Indian Penal Code for submission of any false/fraudulent

paper/information submitted.

- 7) I am liable for action under Indian Penal Code if during the contract period and defect liability period, any false information, false bill of purchases supporting proof of purchase, or proof of testing submitted by my staff, subletting company or by myself, I will be liable for action under Indian Penal Code.
- 8) I am liable for action under Indian Penal Code if any papers are found false/fraudulent during the contract period and even after the completion of the contract (finalization of final bill).

(Signature)

(Name & Title)

Date:

Note:

- 1) Non-performance, as decided by the Employer, shall include all contracts where (i) Non-performance was not challenged by the Contractor, including through referral to the dispute resolution mechanism under the respective contract; and (ii) contracts that were so challenged but fully settled against the Contractor. Non-performance shall not include contracts where the employer's decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.
- 2) The above requirement is also applicable to the contracts executed by the Bidder as a JV member.
- 3) Please note the Contractor & in the case of the Joint Venture lead member as well as all Joint Venture members shall sign the Affidavit individually and to be uploaded and also hard copy to be submitted as per Clause 2.13, failing which their tender will not be opened & summarily rejected.

APPENDIX IX: Form of Solvency Certificate from a Nationalized bank

This is to certify that to the best of our knowledge and information that M/s.....
 having marginally noted address, a customer of our bank are / is respectable and can be
 treated as good for any engagement up to a limit of Rs..... (Rupees
 only).

This certificate is issued without any guarantee or responsibility on the Bank or any of the officers.

(Signature)

For the Bank

Note:-

1. Bankers certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.
2. In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

Instructions:

1. The Bidder shall attach copies of the balance sheets, financial Statements and Annual Reports for **5 (five)** years preceding the BID Due Date. The financial Statements shall:
 - a. reflect the financial situation of the Bidder;
 - b. be audited by a statutory auditor;
 - c. be complete, including all notes to the financial Statements; and
 - d. Correspond to accounting periods already completed and audited (no Statements for partial periods shall be requested or accepted).
2. Solvency Certificate from a Nationalised bank not older than six months as on the date of submission of the bid.
3. Year 1 will be the latest completed financial year, preceding the Bidding. Year 2 shall be the year immediately preceding Year 1 and so on. In case the BID Due Date falls within 3 (three) months of the close of the latest financial year.
4. In the case of a Joint Venture, a copy of the Jt. Bidding Agreement shall be submitted in accordance with Clause 2.2.6 (k) of the RFP document.
5. The Bidder shall also provide the name and address of the Bankers to the Bidder.
6. The Bidder shall provide an Auditor's Certificate

APPENDIX X: Format for Pre-Bid Queries

Name of Work: Request for Proposal for “Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis.”

S. No.	Section/Page/Clause No.	Clause Description	Clarification requested	Employer's Response
1.				
2.				
3.				

APPENDIX XI: Affidavit from Bidder about “not having applied for Corporate Debt Restructuring (CDR) and/ or not rated as default grade by Credit Rating agencies”

Name of Work: “Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis.”

To be submitted by the bidder (in case of JV by each member of the JV or consortium)

(Affidavit to be uploaded and hard copy to be submitted by Bidder as per Clause 2.2.2 B ii, by the lead partner & all Joint Ventures partners on Rs.500/- stamp paper duly notarized.)

Name of work-I_age ____address __ (Authorized signatory to sign the contract), hereby submit, vide this affidavit in truth, that I am the owner of the contracting firm _____/ authorized signatory and I am submitting the documents for the purpose of scrutiny of the contract. I hereby agree to the conditions mentioned below: -

- 1) Certify that all the statements made in this regard are true and correct.
- 2) The undersigned also hereby certifies that neither our firm M/s----- PAN No. have not applied for Corporate Debt Restructuring (CDR) and/ or rated as default grade by Credit Rating agencies and/ or as per the RBI circular as on bid due date.
- 3) The undersigned hereby authorize (s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation
- 4) I, the undersigned declare that have not applied for Corporate Debt Restructuring (CDR) and/ or rated as default grade by Credit Rating agencies and/ or as per the RBI circular as on bid due date.
- 5) The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Department, Project implementing agency within the time frame as specified in this document.
- 6) I am liable for action under Indian Penal Code for submission of any false/fraudulent paper/information submitted.
- 7) I am liable for action under Indian Penal Code if during the contract period and defect liability period, any false information, false bill of purchases supporting proof of purchase, or proof of testing submitted by my staff, subletting company or by myself, I will be liable for action under Indian Penal Code.
- 8) I am liable for action under Indian Penal Code if any papers are found false/fraudulent during the contract period and even after the completion of the contract (finalization of final bill).

(Signature)

(Name & Title) of the bidder

Date:

Endorsement by the Statutory Auditor

APPENDIX XII: Financial Criteria Annual turnover

The Annual turnover shall be as per Clause 2.2.2. B (iv)

SI.No	Financial Years	Annual Turnover	Updation Factor	Updated Turnover	Annual
1	2023-2024		1.0		
2	2022-2023		1.1		
3	2021-2022		1.21		
4	2020-2021		1.33		
5	2019-2020		1.46		
6	2018-2019		1.61		
7	2017-2018		1.77		
8	2016-2017 (if needed)		1.95		

Certificate from the Statutory Auditor

This is to certify that _____ [full name of company] [registered address] has achieved the turnover shown in the respective years.

.Name of Authorized Signatory:

Designation:

Name of firm:

Signature of Authorized Signatory:

Seal of Audit firm:

Note:

- 1) In case the Contractor does not have a statutory auditor, it may provide the certificate from its Chartered Accountant.
- 2) It is clarified that the contractors whose Annual accounts have not yet been finalized for the financial year 2022-2023, they can submit the average annual turnover for the years 2021-2022, 2020-2021, 2019-2020, 2018-2019, 2017-2018, 2016-2017, 2015-2016 along with a certificate from the Statutory Auditor certifying that the accounts for FY 2022-2023 are yet to be finalized.

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Part D: EPC Agreement
Section A Preliminary



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7 Form of Contract Agreement

ENGINEERING, PROCUREMENT CONSTRUCTION, AGREEMENT

THIS AGREEMENT is entered into on this the day of, 20....

BETWEEN

AP Bulk Drug Infrastructure Corporation Limited, incorporated under Indian laws having its registered office at 10th Floor Infrastructure, APIIC Towers, Plot No-1, IT Park, Mangalagiri Guntur AP 522503 IN, (hereinafter referred to as the “Employer” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of one part;

AND

{-----}, means the selected Bidder incorporating under Indian laws having its registered office at..., (hereinafter referred to as the “Contractor” which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns) of the Other Part.

WHEREAS:

AP Bulk Drug Infrastructure Corporation Limited, 100% subsidiary of Andhra Pradesh Industrial Infrastructure Corporation Limited (the “Employer”) proposes to Develop a Bulk Drug Park at Nakkapalli, in an extent of 2001.8 Acres Anakapalli District, Andhra Pradesh

- (A) Accordingly, the Employer has decided to undertake the Development of Bulk Drug Park at Nakkapalli, Anakapalli district, Andhra Pradesh “On EPC Basis”, (the “Project), in accordance with the terms and conditions to be set forth in an Agreement to be entered into.
- (B) The Employer had prescribed the qualification for technical and commercial terms and conditions and invited Bids (the Request for Proposal (RFP)) from the Bidders.
- (C) After evaluation of the Bids received, the Employer had accepted the Bid of the selected Bidder and issued its Letter of Award No Dated

..... (hereinafter called the “LOA”) to the selected Bidder for “Selection of bidder for Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh on EPC Basis, at the Contract Price specified hereinafter, requiring the selected Bidder to inter alia:

- (a) deliver to the Employer a legal opinion from the legal counsel of the selected Bidder with respect to the authority of the selected Bidder to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) days of the date of issue of LOA; and
- (b) Execute this Agreement within 30 (Thirty) days of the date of issue of LOA.

(D) The Contractor has fulfilled the requirements specified in Recital (C) above;

NOW THEREFORE in consideration of the foregoing and the respective covenants and Agreements set forth in this Agreement, the sufficiency and adequacy of which are hereby acknowledged, the Employer hereby covenants to pay the Contractor, in consideration of the obligations specified herein, the Contract Price or such other sum as may become payable under the provisions of the Agreement at the times and in the manner specified by the Agreement and intending to be legally bound hereby, the Parties agree as in subsequent sections.

8 Definitions and Interpretation

8.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Section 35) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules.

8.2 Interpretation

8.2.1 In this Agreement, unless the context otherwise requires,

- a) references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, byelaws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended, or re-enacted;
- c) references to “Employer:” Andhra Pradesh Bulk Drug Corporation Limited represented by the Chief Engineer (III), APIIC, or any other person or persons as nominated by the Managing Director of APBDICL
- d) to act as Employers Representative.
- e) references to a “person” and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, Government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;
- f) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the Construction or interpretation of this Agreement;
- g) the words “include” and “including” are to be construed without limitation and shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
- h) references to “Construction” or “building” include, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, Materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and

commissioning of the Project Works,) removing of defects during Defect liability period, if any, and other activities incidental to the Construction and “construct” or “build” shall be construed accordingly;

- i) references to “development” include, unless the context otherwise requires, Construction, renovation, refurbishing, augmentation, upgradation and other activities incidental thereto during the Construction Period, and “develop” shall be construed accordingly;
- j) any reference to any period of time shall mean a reference to that according to Indian standard time;
- k) any reference today shall mean a reference to a calendar day;
- l) references to a “business day” shall be construed as a reference to a day (other than a Sunday) on
which banks in Andhra Pradesh are generally open for business;
- m) any reference to a month shall mean a reference to a calendar month as per the Gregorian calendar;
- n) references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- o) any reference to any period commencing “from” a specified day or date and “till” or “until” a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- p) the words importing singular shall include the plural and vice versa;
- q) references to any gender shall include the other and the neutral gender;
- r) “lakh” means a hundred thousand (100,000) and “crore” means ten million (10,000,000);
- s) “indebtedness” shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
- t) references to the “winding-up,” “dissolution,” “insolvency”, or “reorganization” of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection, or relief of debtors;
- u) save and except as otherwise provided in this Agreement, any reference, at any time, to any Agreement, deed, instrument, license or document of any description shall be construed as a reference to that Agreement, deed, instrument, license or other documents as amended, varied,

supplemented, modified or suspended at the time of such reference; provided that this Clause shall not operate so as to increase liabilities or obligations of the Employer hereunder or pursuant hereto in any manner whatsoever;

- v) any Agreement, consent, approval, authorization, notice, communication, information, or report required under or pursuant to this Agreement from or by any Party or the Employer's Engineer shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party or the Employer's Engineer, as the case may be, in this behalf and not otherwise;
- w) the Schedules, any addendum/corrigendum and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- x) references to Recitals, Articles, Clauses, Sub-clauses, or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Agreement, and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Agreement or of the Schedule in which such reference appears;
- y) the Damages payable by either Party to the other of them, as set forth in this Agreement, whether on a per diem basis or otherwise, are mutually agreed genuine per-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the "Damages"); and
- z) Time shall be of the essence in the performance of the Parties' respective obligations. If any period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.

8.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Contractor to the Employer shall be provided free of cost and in five copies, and if the Employer is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain two copies thereof.

8.2.3 The rule of Construction, if any, that a contract should be interpreted against the Parties responsible for the drafting and preparation thereof, shall not apply.

8.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act, 1897 shall not apply.

8.3 Measurements and Arithmetic Conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.

8.4 Priority of Agreements and Errors/Discrepancies

8.4.1 This Agreement and all other Agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and Agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:

- a) this Agreement; and
- b) All other Agreements and documents forming part hereof or referred to herein; i.e. this Agreement at (a) above shall prevail over the Agreements and documents at (b).

8.4.2 Subject to the provisions of Clause 8.4.1, in case of ambiguities or discrepancies within this Agreement, the following preference shall apply:

- a) between two or more Clauses of this Agreement, the provisions of a specific Clause/Stringent/better/higher specification relevant to the issue under consideration shall prevail over those in other Clauses;
- b) between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
- c) between any two Schedules, the Schedule relevant to the issue shall prevail;
- d) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- e) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
- f) Between any value written in numerals and that in words, the latter shall prevail.

8.5 Joint and several liability^s

8.5.1 If the Contractor has formed a Joint Venture as a legal entity of not exceeding three (3) for implementing the Project:

- a) these persons shall, without prejudice to the provisions of this Agreement, be deemed to be jointly and severally liable to the Employer for the performance of the Agreement; and
- b) the Contractor shall ensure that no change in the composition of the Joint Venture is affected without the prior consent of the Employer.

8.5.2 Without prejudice to the joint and several liabilities of all the members of the Joint Venture, the Lead Member shall represent all the members of the Joint Venture and shall at all times be liable and responsible for discharging the functions and obligations of the Contractor. The Contractor shall ensure that each member of the Joint Venture shall be bound by any decision, communication,

notice, action or inaction of the Lead Member on any matter related to this Agreement and the Employer shall be entitled to rely upon any such action, decision or communication of the Lead Member. The Employer shall have the right to release payments solely to the Lead Member and shall not in any manner be responsible or liable for the inter se allocation of payments among members of the Joint Venture⁶.

8.5.3 This Clause 8.5 may be omitted if the Contractor is not a JV. Even if the Contractor is a JV the Employer may, at its discretion, delete this provision.

Part D: EPC Agreement
Section B-Scope of Project

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9 Scope of the Project

Under this Agreement, the scope of the Project (the "Scope of the Project") shall mean and include:

- a) Design, Construction, testing, commissioning of project works at the Bulk Drug Park and the development of the Project together with the provision of Project works shall be as specified in the scope mentioned in Clause 1.6 and Specifications & Standards set forth in Volume II Technical Scope & Specifications;
- b) Maintenance of the Project in accordance with the provisions of this Agreement and in conformity with the requirements set forth in the tender; and
- c) Performance and fulfilment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement.

The scope under this contract comprises of Data collection, Investigations and studies, Design, Engineering, Supply, Transportation to site, Storage, Construction, Installation/Erection, Testing, Commissioning and putting into the successful operation of the complete Facility on an EPC basis including all Civil, Structural and Architectural, Mechanical, Electrical, Control & Instrumentation and all Infrastructural work covering, all preparatory & temporary works for the purpose of meeting the entire scope of works.

The Contractor shall be fully responsible to ensure that the whole of the Works, including each individual component, is designed and constructed in a manner so that the System as a whole operates as a fully integrated system which is capable of achieving the required output in an efficient and economical manner, and to include all plant, equipment and accessories required for the safe and satisfactory operation of the facilities. To achieve this the Contractor shall ensure that each individual component performs in a manner which is complimentary to that of all other components. Any accessories which are not specifically mentioned in the specifications, but which are usual or necessary for the completion of the Works and successful performance of the System and facilities shall be provided by the selected Bidder within the Contract Price. The Contractor shall, to the maximum extent practical and feasible, endeavor to standardize the manufacture and supply of plant and machinery so as to minimize the operation and maintenance requirements. The Contractor shall ensure that his designs are "maintenance-friendly" and that all works / components of Bulk Drug Park are designed and installed in a manner which will facilitate routine and periodic maintenance operations. For detailed scope Refer Volume II.

10 Obligations of the Contractor

10.1 Obligations of the Contractor

EPC Contractor to provide preference to MSME and Make in India as per the Public Procurement (Preference to Make in India), Order 2017 and MSME policy.

10.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, Construction, of Project works and services/utilities as defined in Scope and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.

10.1.2 The Contractor shall design, execute and complete the works in accordance with the contract terms, and shall also remedy any defects in the works. When completed, the works shall be fit for the purposes for which the works are intended as defined in the contract. The Contractor shall provide the Plant and Contractor's documents specified in the contract, and all Contractor's personnel, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects. The works shall include any work which is necessary to satisfy the Employer's requirements or is implied by the contract, and all works which (although not mentioned in the contract) are necessary for stability or for the completion, or safe and proper operation, of the works. The Contractor shall be responsible for the adequacy, stability, and safety of all site operations, of all methods of installation and of all the works (as it is based on his designs & drawings etc., submitted as the EPC contract with supplementary contracts). The Contractor shall, whenever required by the Employer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Employer and without the approval of the Employer/Employer's Representative of the Employer.

10.1.3 The Contractor shall also to submit a quality assurance plan within the contract commencement date for approval of the Employer. The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the contract. The system shall be in accordance with the details stated in the contract. The Employer or his representative shall be entitled to audit any aspect of the system. Details of all procedures and compliance documents shall be submitted to the Employer for information before each design and execution stage is commenced. When any documents of a technical nature are issued to the Employer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself. Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations, or responsibilities under the contract. The Contractor has to make his own arrangements and at his own cost the manpower, water, drainage/sewerage and electricity or alternative power supply and any land for use and such

other facilities and provisions including to site office etc., required for the works and to the accommodation of his workers and at work sites, fair wages/remuneration, statutory insurance of manpower, their security and safety measures, compliance of various statutory provisions for commencement, execution and completion of the works contract, save those specifically agreed to be provided by the Employer. The Contractor who has to engage the full-time key personnel in the works-shall instruct at least reasonable persons among them to work in the quality control area exclusively, that too in coordination with the field engineers and quality control wing of the Employer for ensuring qualitative and quantitative performance by checks and balances.

- 10.1.4** The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement. All statutory permits to be obtained by the Contractor shall be valid up to 1 year post Completion of the Construction works./ Commercial Operation Date. The expenses for the statutory permits for 1 (one) year post Completion of the Construction works/ Commercial Operation Date shall be borne by the Employer.
- 10.1.5** Subject to the provisions of Clauses 10.1.1 and 10.1.2, the Contractor shall discharge its obligations in accordance with Good Industry Practice.
- 10.1.6** The Contractor shall remedy any and all loss or damage to the Project and Services/utilities from the Appointed Date until the end of the Construction Period + Defect Liability Period at the Contractor's cost, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Employer.
- 10.1.7** The Contractor shall remedy any and all loss or damage to the Project and Services/utilities during the Defects Liability Period at the Contractor's cost to the extent that such loss or damage shall have arisen out of the reasons specified in Clause 24.3.
- 10.1.8** The Contractor shall remedy any and all loss or damage to the Project works and Services/utilities including Road works including Structures & Area Landscaping, Stormwater Drain, Water distribution system, Recycle water Supply, Wastewater Conveyance Network System HTDiS and LTDiS and Treatment System, Power Supply and Distribution, Pure Water Supply (EDI+ RO Plant), Truck Parking, Emergency Response Centre, Boundary fence, CETP with Marine Outfall System and Partly with ZLD System, Steam Generation Plant, Common Solvent Recovery System, Solid waste management, R&D Lab & Centre of Excellence, Analytical Testing Labs, Incubation Centre with Testing labs & equipments, Admin Building inclusive of all furnishings, Warehouse as defined in the scope during the Defect Liability Period at the Contractor's cost, including those stated in Clause 21.1.2, save and except to the extent that any such loss or damage shall have arisen on account of any default or neglect of the Employer or on account of a Force Majeure Event.

10.1.9 The Contractor shall not deposit materials at any site, which will cause inconvenience to the public. The Contractor shall protect adjoining sites against structural, decorative and other damages that could be caused by the execution of the works and make good at his cost any such damages. The Employer/Employer's Representative may direct the Contractor to remove such materials or may undertake the job at the cost of the Contractor. The Contractor shall dispose of the pollutants and waste if any time to time during the execution of the contract works as per PCB norms with the prior permission of the Employer or as and when required by the Employer.

10.1.10 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:

- a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits set forth in Schedule-A and obtain and keep in force and effect such Applicable Permits in conformity with the Applicable Laws, including observance of COVID-19 guidelines & taking of COVID—19 precaution time to time not only in the safety of workers & staff of the Contractor & also the Employer & also the visitors including the officials;
- b) procure, as required, the appropriate proprietary rights, licenses, Agreements and permissions for Materials, methods, processes and systems used or incorporated into the Project works and Services as cited above;
- c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-Contractors in connection with the performance of its obligations under this Agreement.
- d) ensure and procure that its Sub-Contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement.
- e) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement.
- f) support, cooperate with and facilitate the Employer in the implementation and operation of the Project in accordance with the provisions of this Agreement.
- g) ensure that the Contractor and its Sub-Contractors comply with the safety and welfare measures for labour in accordance with the Applicable Laws and Good Industry Practice;
- h) keep, on the Site, a copy of this Agreement, publications named in this Agreement,

the Drawings, Documents relating to the Project, and Change of Scope Orders and other communications given under this Agreement. The Employer's Engineer and its authorized personnel shall have the right of access to all these documents at all reasonable times;

- i. cooperate with other Contractors employed by the Employer and personnel of any public authority;and
- ii. not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.
- i) the Contractor shall be responsible for the development of the 4D BIM. TEKLA, REVIT, model and CAD requirements in all stages of Design and Construction as per the requirements mentioned in Schedule L.
- j) the Contractor shall prepare Project specific Health, safety and Environment plan based on guidelines provided in Schedule M for implementation.
- k) The contractor and their sub-Contractors shall comply with Project Management requirements as mentioned in Schedule N.
- l) the Contractor shall conduct aerial photography of the Project as mentioned in Schedule O
- m) the Contractor shall have to provide a project architectural model of size about 3 m x 1.5 m of the overall project area at a place designated by Employer/ Employer's engineer depicting the master plan features using acrylic or any other approved durable material within 3 months from the date of signing of agreement The cost of the model shall be deemed to be included in the contract price.

10.1.11 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Bulk Drug Park project works

10.1.12 Deleted

10.1.13 The design criteria provided in respective schedules of the same volume are basic design criteria and have to be met in totality. However, if the Contractor feels that, he requires additional work to meet the contractual conditions, the cost of same shall be deemed to be included in the Price and no extra cost shall be paid over and above the quoted price.

10.1.14 Deleted

10.1.15 The Contractor will be fully responsible for ensuring that its designs, drawings, and construction documents satisfy all requirements for constructing Works that are

complete and fully functional in all respects and meet the Performance Guarantee requirements as well as Environmental requirements.

10.1.16 In addition to the above, the Contractor shall establish a Site office in Nakkapalli headed by its Construction Manager/Project Manager at the Site, for which land the required land upto 1 acre shall be provided by the Employer. The land shall be handed over back to Employer after clearing the temporary or permanent structures, debris etc. if any. However, the cost of construction of the site office, office equipment including furniture etc. and its running cost should have been deemed to be included in the price Bid with no additional implication to the Employer.

10.1.17 The set down area required by the Contractor for its construction equipment and materials shall be provided by the Employer with no cost to the Contractor.

10.1.18 Regarding contractor's profit, overheads etc.,

In the contract value of the works contracts, the contractor's profit, overheads etc., provisions being made as per recommendations of the High level committees, provision for sales/ turnover tax/ GST, site office accommodation, light vehicles for site supervision etc., made or not to verify and if made for any such particular facility not required/not provided or any provision is overlapping, proportionate amount of the provision with GST loaded on it has to be deducted atleast while making final payment out of the provision for which benefit not extended by the contractor. Since provision is made under the component of over head charges and contractor's profit in the estimate from what the SSR provides on what are the contractor's overheads, profits and other provisions in recommending 13.615% or 14%, for overhead charges include site accommodation, site arrangements, office furniture, equipments and communications, light vehicles for site supervision including administrative and managerial requirements, taking guidance of the Memo of Govt. of A.P. H&M, H&I,D/APMSIDC, No.2807, dt.18-11-2011 with break up for 14% including insurance now not compulsory for employer to meet in arriving to 13.615% supra of which site accommodation is 0.50%, light vehicles for site supervision etc., 0.25%, office furniture, equipment and communication 0.50%, the contractor shall provide with that amount minimum number of good condition light vehicles for the staff of the employer so also site office accommodation, office furniture, equipment and communication and any failure so to provide with provision made for the respective facility will entitle to deduct the amount being arrived out of the provision from the final bill

10.1.19 Contractor to provide site office and Lab room:

(Within 60 days after Signing of the Agreement, if any delay in construction of site office penalty will be imposed over and above L.D.

Contractor shall provide a permanent site office (Masonry & RCC structure) and portable stores (Metal / Wood / PVC) at the location suggested by the Employer in the area identified by the

Employer. The site office shall be utilized exclusively for the Employer /Employers Engineer staff. Site office shall be fully furnished computer, internet, printer, furniture, cooler and such necessary facilities. The site office shall room with allied utilities like toilets, pantry etc. Intermediate shifting of portable structures (such as stores) may be required during any stage of project, hence contractor is abided to do so without any cost or time factor. Contractor should maintain the site office till the project tenure and hand it over to the Employer without claiming any extra cost. Following utility services shall be provided for Employers staff / Employers Engineer with water supply, drainage, electricity and housekeeping services etc. free of cost till end of Construction Period.

- a. Site office with conference room and toilet block as per Project requirement.
- b) Lab room with lab equipment as per Project requirement.
- c) Office furniture: - tables, revolving chairs, visitor chairs, Cupboards, rack, drawing stands, water cooler with RO plant, laptops / computers of Dell, HP, Lenovo or Acer company with latest configuration and version, printer with scanner and all type of office stationery.
- d) Computer operator cum clerk
- e) Peon
- f) Internet connection with running services till the end of the project.
- g) Fax machine with connection and running services till the end of the project.
- h) AC & pedestal fan
- i) Security Guard - 24 hrs

10.1.19.1 Medical care

The Contractor shall ensure that the workers staying within the Labor accommodation have access to medical facilities 24 hours of a day. If access to this medical facility requires the labour to travel outside the perimeter of the accommodation, the Contractor shall ensure that a vehicle is available 24x7. In such cases, the provision of first aid will be available within the labour accommodation.

10.1.19.2 Waste disposal

- Waste that is accumulated from the labour accommodation shall be disposed of in a manner that complies with the Ministry of Environment regulations. The Contractor shall ensure that waste is collected and disposed of on a regular basis (no longer than 7 days for general waste and no more than 2 days for kitchen waste) and that no waste is burned.
- The kitchen and accommodation blocks shall be provided with separate waste bins.
- Adequate sewage tanks shall be built for the sanitary facilities (toilets, bathrooms and wash area) and provision shall be made to ensure that the sewage can be disposed of

safely. Care shall be taken to

- ensure that the sewage tanks are not close to the dwelling rooms & cooking facility (at least 50 meters away). Tanks shall be built such that they do not leak into the soil and stacks (provided for ventilation) are at sufficient height and that fumes do not affect the accommodation area.

10.1.19.3 Drinking water

Fresh portable drinking water shall be available for cooking and consumption within the labour accommodation. Any water stored in tanks shall be filtered through a filtration system before it is consumed. Holding tanks shall be cleaned on a monthly basis as a minimum and water tested for portability.

10.2 Obligations Relating to Sub-contracts and any other Agreements.

10.2.1 There is no right for the prime Contractor to sub-contract any part of the contract works, but to address the Employer seeking permission. If the prime Contractor desires to sub-contract any part of the work during execution, the prime Contractor should submit in writing the necessity of sub-contracting any part of the contract work, subject to the ceiling of 20% in all, along with the name of the proposed Sub-Contractor, details of qualification, experience and valid registration and as to the proposed Sub-Contractor gets eligibility from suitable class for such sub-contract work and that he verified and found genuineness of the proposed sub-Contractors information. No further qualification criteria other than valid registration are required to consider sub-contracting the work up to a value of Rs.2.00 crores. However, the total value of works to be awarded on sub-contracting shall not exceed 20% of the contract value. The Tender Accepting Authority before awarding of works on sub-contracting (subject to total sub-contracting of the contract value of either one or more sub-Contractors) shall verify the genuineness of the proposed Subcontractors qualification and other eligibility criteria and if the Sub-Contractor satisfies the qualification and other eligibility criteria with reference to the criteria of prime Contractor in proportion to the value of work proposed to be sub-contracted, he may address for approval by the concerned Technical Committee.

10.2.2 It is after according of approval by the Technical Committee for any such Sub-Contracting, the Tender Accepting Authority can permit such Sub-Contracting and mention as to earlier any part of work permitted by sub-contracting and if so with the proposed one it no way exceeds 20% of the contract value.

10.2.3 The extent of the sub-contract shall be added to the experience of the sub-Contractor and to that extent deducted from that of the main Contractor.

10.2.4 It is the responsibility of the main Contractor to clear the liabilities if any that arise on the portion of the work executed by the sub-Contractor till the completion of the contract work

and also till the end of the defect liability period of the work, besides the end of operation and maintenance period covered if any therein.

10.3 Employment of Foreign Nationals

The Contractor acknowledges, agrees and undertakes that employment of foreign personnel by the Contractor and/ or its Sub-Contractors and their Sub-Contractors shall be subject to the grant of requisite regulatory permits and Approvals including employment/residential visas and work permits, if any are required, and the obligation to apply for and obtain the same shall and will always be of the Contractor. Notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Contractor or any of its Sub-Contractors or their sub-Contractors shall not constitute Force Majeure Event and shall not in any manner excuse the Contractor from the performance and discharge of its obligations and liabilities under this Agreement.

The Contractor may import any personnel who are necessary for the execution of the Works. The Contractor must ensure that these personnel are provided with the required residence visas and work permits. The Contractor shall be responsible for the return to the place where they were recruited or to their domicile of imported Contractor's Personnel. The Contractor shall be responsible for such personnel who are to return until they shall have left the Site or, in the case of foreign nationals who have been recruited outside the country, shall have left it.

10.4 Contractor's Personnel

10.4.1 The Contractor shall ensure that all the personnel engaged by it or by its Sub-Contractors in the performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions in conformity with Good Industry Practice.

10.4.2 The Employer's Engineer may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Sub-Contractor's personnel. Provided that any such direction issued by the Employer's Engineer shall specify the reasons for the removal of such person.

10.4.3 The Contractor shall on receiving such a direction from the Employer's Engineer order for the removal of such person or persons comply with directions with immediate effect. It shall be the duty of the Contractor to ensure that such persons are evicted from the Site within 10 (ten) days of any such direction being issued in pursuance of Clause 10.4.2. The Contractor shall further ensure that such persons have no further connection with the Works or Maintenance under this Agreement. The Contractor shall then appoint (or cause to be appointed) a replacement immediately.

10.5 Advertisements on the Project Site



The Project Site or any part thereof shall not be used in any manner to advertise any commercial product or service.

10.6 Contractor's Care of the Works

The Contractor shall bear full risk in and take full responsibility for the care of the Works, and of the Materials, goods and equipment for incorporation therein, from the Appointed Date until the date of Substantial Completion Certificate (with respect to the Works completed prior to the issuance of the Substantial Completion Certificate) and/or Completion Certificate for construction works (with respect to the Works referred to in the Punch List), save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Employer.

10.7 Electricity, Water and Other Services

10.7.1 For Construction Period: The Contractor shall be responsible for the provision of all power, water, and other services he may require for the performance of the Construction period of the Contract including hydro-testing of pipes and tanks/ structures etc. This includes contacting the appropriate utility or service providers and applying for connections, as necessary. The Contractor shall, at his own risk and cost, provide all piping, fittings, and other equipment necessary for his use and for the metering of the water and any treatment needed. The Contractor is to ensure that the quality of Water remains suitable for the purpose for which it is intended.

10.7.2 For Trial Run and Commissioning, Performance Test

For Trial run and commissioning, Performance test, necessary power and water cost shall be borne by the Contractor. Sewage and industrial effluent required for trial run and commissioning of the sewerage and effluent networks including Treatment Plants shall be arranged by the Contractor.

10.8 Deleted

10.9 Working Days

10.9.1 Construction work will be permitted to be carried out at the Site from Monday to Saturday excluding holidays. Working hours and Working days shall also be subject to adherence to Labour Laws.

10.9.2 Deleted

10.9.3 No Construction work shall be carried out on the Site on locally recognized days of rest, or outside as stated in clause 10.9.1 unless:

- otherwise stated in the Contract, or
- the Employer's Engineer gives consent, or

- necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer's Engineer.

10.10 Labour Laws

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights. The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

10.11 Facilities for Staff and Labour

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

- a) Within 30 days of the award of work, the Contractor shall provide the site office with independent soundproof air-conditioned cabins for use by Employer/Employer's Representative and PMC and its staff appointed by Employer. The site office should have at least two meeting rooms (min 10-person seating capacity in each), pantry and toilet facilities. The site office shall include necessary furniture, required office equipment i.e. Fax, photocopy, computer with a colour laser printer of the latest configuration /software and broadband internet connections for use by Employer/Employer's Representative and consultant and its staff appointed by Employer.
- b) The location and layout of site offices shall be got approved by the Employer/Employer's Representative before providing the same.
- c) The Contractor shall appoint a duly qualified safety officer who shall be stationed at the site from the time the Contractor mobilizes. These personnel or a suitable replacement, if required, and for which prior permission of Employer is to be obtained, shall be stationed at the site till the end of the contract period.
- d) The Contractor shall provide electricity, water, and telephone connections to the site office at his own cost along with other required facilities.
- e) Running expenses of the site office shall be borne by the Contractor.
- f) The Contractor shall not use any part of the project site or any adjoining/nearby site for a labour camp or accommodation/housing of any labour without the written permission of the Engineer-in-Charge.

10.12 Measures against Insects and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect all staff and labour employed on the Site from insect and pest nuisance and to reduce the dangers to health and general nuisance occasioned by the same. The Contractor shall provide his staff and labour with suitable prophylactics for the prevention of malaria and take steps to prevent the formation of stagnant pools of water. The Contractor shall comply with all the regulations of the local health authorities and shall arrange to spray thoroughly with approved insecticide in all.

10.13 Epidemics

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, to deal with and overcome the same.

10.14 Burial or Cremation of the Dead

The Contractor shall make all necessary arrangements for the transport, to any place as required for burial/cremation, of any of his expatriate employees or members of their families who may die at the works. The Contractor shall also be responsible, to the extent required by local regulations, for making any arrangements with regard to the burial/cremation of any of his local employees who may die while engaged in the Works.

10.15 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country import, sell, gift, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale gift, barter or disposal by Contractor's Personnel.

10.16 Arms and Ammunition

The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or allow Contractor's personnel to do so.

10.17 Festivals and Religious Customs

The Contractor shall respect the Country's/Locally recognized festivals, days of rest and religious or other customs.

11 Obligations of the Employer

11.1 Obligations of the Employer

11.1.1 The Employer shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.

11.1.2 To assist in due discharge of its obligation, the Employer has appointed Project Management Consultant ("PMC"). The role of the PMC is to perform activities necessary to plan, integrate, package, administer, and manage the implementation of Bulk Drug Park Project, at Nakkapalli. Specifically, the PMC will be responsible, during the design and Construction stage, overseeing the work of other consultants and Contractors appointed by the Employer, including reviewing, monitoring, resolution of interface issues, and reporting to the APIIC on the Project progress. All communications relating to contract management on this Project shall be submitted to the PMC for final approval of the Employer.

11.1.3 The Employer's engineer's decision on the scope of the Project shall be final for the proposed contract.

11.1.4 The Employer shall provide to the Contractor:

upon receiving the Performance Security under Clause 14.1.1 and signing of the Contract Agreement under clause 34.8, the Employer shall provide all environmental clearances as required under Clause 11.2.

The project site in accordance with the provisions of Clause 15.2, within 90 (ninety) days from the date of this Agreement, on no less than 80% (eighty per cent) of the Project Area. Balance 20 % (twenty per cent) shall be handed within 1 (one) year from the date of signing of the Agreement. No compensation will be paid for such delay; however, a time extension can be granted upon submission of the schedule impact.

11.1.5 Deleted

11.1.6 Deleted

11.1.7 The Employer agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and the Applicable Laws, the following:

- a) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project.
- b) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities,

including water and electricity at rates and on terms no less favourable than those generally available to commercial customers receiving substantially equivalent services.

- c) that no barriers that would have a Material Adverse Effect on the Works are erected or placed on or about the Project Site by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security, law and order or collection of inter-state Taxes;
- d) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
- e) support, cooperate with and facilitate the Contractor in the implementation of the Project in accordance with the provisions of this Agreement; and
- f) upon written request from the Contractor and subject to the provisions of Clause 10.3, provide reasonable assistance to the Contractor and any expatriate personnel of the Contractor or its Sub-Contractors to obtain applicable visas and work permits for discharge by the Contractor or its Sub-Contractors of their obligations under this Agreement and the Agreements with the Sub-Contractors.

11.2 Environmental Clearances

The Employer represents and warrants that the environmental clearances and Coastal Regulation Zone (CRZ), 2011 required for the construction and development of the Project are being procured by the Employer. The Employer agrees and undertakes that the statutory approvals shall be procured by the Employer no later than 90(ninety) days from the Date of Agreement. In the event of any delay beyond such 90(ninety) days, the Contractor shall be entitled to a Time Extension for the period of such delay in accordance with the provision of Clause 17.5 of this Agreement. In the event of delay beyond 2 (two) years from the Date of Agreement the Contractor shall have the right to invoke termination of this Agreement.

Issuance of LOA for the EPC contract is subject to the grant of Environmental Clearance for the project.

The EPC Contractor shall be required to develop their site-specific Health, Safety & Environment (HSE) plan and get it approved by PMC. Further, the Contractor shall be required to comply with the conditions and requirements stipulated in the approved HSE plan, Environment Management Plan (EMP) prepared during the EIA stage of the project and all the statutory approvals applicable for the project such as Environmental Clearance, Coastal Regulation Zone (CRZ) Regulation, 2011 etc. which is mandatory to be followed during the construction and operational phase of the project as part of statutory compliance and Contractor's HSE Plan for the Project.

The EPC Contractor shall be required to submit their application and obtain approvals &

permits for constructionstage activities such as Consent to Establish (CTE) & Consent to Operate (CTO) for Ready Mix Concrete Plant (RMC), Hot Mix Plant (HMP) & Wet Mix Macadam (WMM) and other permits such as Labour License, BOCWA, ESIC, PF, Tree cutting, Utility shifting, PESO, Electrical Safety etc as mentioned in Schedule A. The Employer shall not be liable for any delayin issuance of the same.

12 Representations and Warranties

12.1 Representations and Warranties of the Contractor

The Contractor represents and warrants to the Employer that:

- a) It is duly organized and validly existing under the laws of India, and has full power and authority/capabilityto execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- b) it has taken all necessary corporate and/or other actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable against it in accordance with the terms hereof;
- d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability orresponsibility hereunder;
- e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, Agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregatemay result in any Material impairment of its ability to perform any of its obligations under this Agreement.
- h) it does not know of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any Material adverse effect on its ability to perform its obligations under

this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;

- i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a Material adverse effect on its ability to perform its obligations under this Agreement;
- j) no representation or warranty by it contained herein or in any other document furnished by it to the Employer or any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of Material fact or omits or will omit to state a Material fact necessary to make such representation or warranty not misleading;
- k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Employer in connection therewith;
- l) all information provided by the {selected Bidder/ members of the Joint Venture} in response to the Request for Qualification and Request for Proposals or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and
- m) Nothing contained in this Agreement shall create any contractual relationship or obligation between the Employer and any Sub- Contractors, designers, consultants or agents of the Contractor.

12.2 Representations and Warranties of the Employer

The Employer represents and warrants to the Contractor that:

- a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;
- b) it has taken all necessary actions under the Applicable Laws to authorize the execution, delivery and performance of this Agreement;
- c) it has the financial standing and capacity to perform its obligations under this Agreement;
- d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;

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- e) it has no knowledge of any violation or defaults with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any Material adverse effect on the Employer's ability to perform its obligations under this Agreement;
 - f) it has complied with Applicable Laws in all material respects;
 - g) it has good and valid rights to the Site.

12.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

13 Disclaimer

13.1 Disclaimer

- 13.1.1** The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Request for Qualification (RFQ) cum Request for Proposal (RFP), Scope of the Project, Specifications and Standards of design, Construction and Maintenance, Project site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Project Site and all information provided by the Employer or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 11.1.3 and Clause 12.2, the Employer makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Employer in this regard.
- 13.1.2** The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.
- 13.1.3** The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 13.1.1 above and hereby acknowledges and agrees that the Employer shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.
- 13.1.4** The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 13.1.1 above shall not vitiate this Agreement or render it voidable.
- 13.1.5** In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 13.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.
- 13.1.6** Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Employer shall not be liable in any manner for such risks or the consequences thereof.

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Part D: EPC Agreement
Section C-Construction and Maintenance



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14 Performance Security

14.1 Performance Security

14.1.1 The Contractor shall, for the performance of its obligations hereunder during the Construction Period, provide to the Employer, within 15 (fifteen) days of the date of this Agreement, an irrevocable and unconditional guarantee from a Bank in the form set forth in Schedule-B (the "Performance Security") for an amount equal to 2.5% (Two and a Half per cent) of the Contract Price in compliance with the Manual of Procurement of Works, 2022, Dept of Expenditure, Ministry of Finance, Government of India. GoAP, G.O.MS.No. 94, Irrigation and Cad (PW-COD) Department dated 01.07.2023 and GoAP, G.O. Rt. No. 117, Finance (HR-V-TFR-A&L-EWF) Department dated 17.05.2022. The Performance Security shall be valid until 90 (Ninety) days after the Defects Liability Period. The Bank Guarantee should not be liquidated without official consent in writing from the Government/ Employer. Until such time the Performance Security is provided by the Contractor pursuant hereto and the same comes into effect, the Bid Security shall remain in force and effect, and upon such provision of the Performance Security, the Employer shall release the Bid Security to the Contractor.

14.1.2 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security in accordance with the provisions of Clause 14.1.1 and within the time specified therein or such extended period as may be provided by the Employer, in accordance with the provisions of Clause 14.1.3, the Employer may encash the Bid Security and appropriate the proceeds thereof as Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual Agreement of the Parties.

14.1.3 In the event the Contractor fails to provide the Performance Security within 15 (fifteen) days of this Agreement, it may seek an extension of time for a period not exceeding 15 (fifteen) days on payment of Damages for such extended period in a sum calculated at the rate of 0.05% (zero point zero five per cent) of the Contract Price for each day until the Performance Security is provided.

14.2 Extension of Performance Security

The Contractor shall provide Performance Security for the duration of 1 year from the date of Completion of Construction including the Defect Liability period + 28 days grace period. In case of an extension of the contract, the extension of the validity of the Performance Security, as necessary shall be submitted, at least 2 (two) months prior to the date of expiry of the Bank Guarantee thereof.

14.3 Appropriation of Performance Security

- 14.3.1** Upon the occurrence of a Contractor's Default, the Employer shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages for such Contractor's Default.
- 14.3.2** Upon such encashment and appropriation from the Performance Security, the Contractor shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Employer shall be entitled to terminate the Agreement in accordance with Section 30. Upon replenishment or furnishing of a fresh Performance Security, as the case may be, as aforesaid, the Contractor shall be entitled to an additional Cure Period of 30 (thirty) days for remedying the Contractor's Default, and in the event of the Contractor not curing its default within such Cure Period, the Employer shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Section 30.

14.4 Release of Performance Security

The Employer shall return the Performance Security to the Contractor on the successful completion of the Defect Liability Period (DLP) (+) 28 days' grace period from the end of the DLP/(or) from the date of check measurement of the rectification plus 28 days of grace period in case the defect rectification completed beyond the DLP/

14.5 Retention Money

- 14.5.1** From every payment for Works due to the Contractor in accordance with the provisions of Clause 26.5, the Employer shall deduct 7.5% (Seven and a Half per cent) thereof as Further Security Deposit (FSD) for the performance of the obligations of the Contractor during the Construction Period (the "Retention Money")

Upon the occurrence of a Contractor's Default, the Employer shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the relevant amounts from the Retention Money as Damages for such Contractor's Default.

The Contractor may, upon furnishing an irrevocable and unconditional bank guarantee substantially in the form provided at 37.2 of Schedule-B, require the Authority to refund the Retention Money deducted by the Authority under the provisions of Clause 14.5.1. The retention amount shall be released against unconditional Bank Guarantee in multiples of Rs.50 Lakhs if the rate of progress is maintained.

The said bank guarantee shall be valid till the end of Construction Period. the Employer shall discharge the bank guarantees, if any, furnished by the Contractor under the provisions of Clause 14.5.1 and refund the balance of Retention Money remaining with the Employer after adjusting the

amounts appropriated under the provisions of Clause 14.5.1 and the amounts refunded under the provisions of Clause 14.5.1

14.5.2 The Parties agree that in the event of Termination of this Agreement, the Retention Money and the Bank guarantees specified in this Clause 14.5 shall be treated as if they are Performance Security and shall be reckoned as such for the purposes of Termination Payment under Clause 30.6.

14.5.3 Deleted.

14.5.4 Deleted.

14.5.5 The amount payable by the successful bidder towards Performance Bank Guarantee (PBG) and Further Security Deposit (FSD/Retention Money) is as per the G.O. Rt No. 117 of Finance (HR-V-TFRA&L-EWF) Department, dated: 17-05-2022.

14.5.6 Deleted.

15 The Project Site

15.1 The Site

APIIC has identified around 6500 acres of land for Developing Nakkapalli Industrial area (NIA). NIA comes under the Nakkapalli Cluster which is one of the two clusters of Visakhapatnam Node in Vizag Chennai Industrial Corridor Project. Nakkapalli Industrial Area (NIA) also falls under Visakhapatnam-Kakinada Petroleum, Petrochemical Investment Region (VK-PCPIR) which is being promoted by GoAP along with Go.

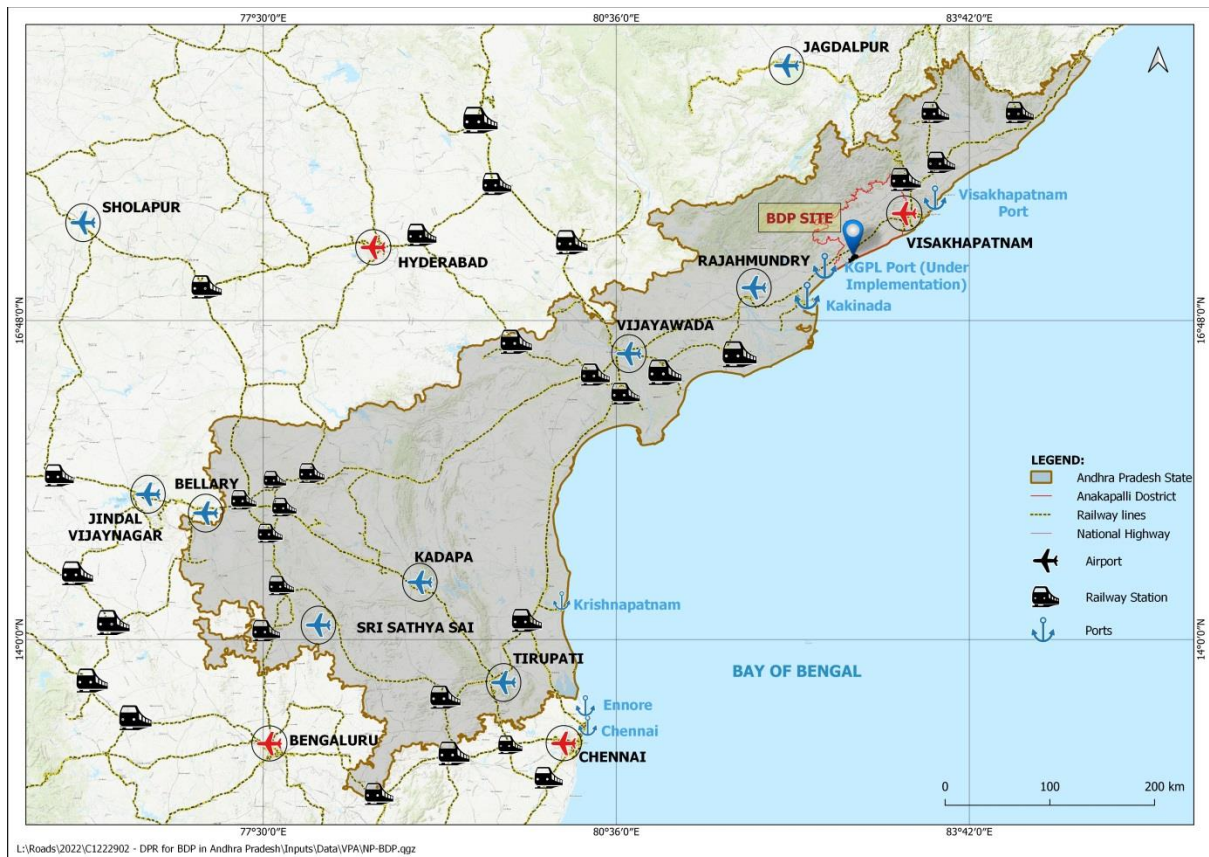


Figure 3 Location Map of BDP, Nakkapalli

Out of the total area of NIA, around 2001.8 acres has been earmarked for establishing the Bulk Drug Park. The identified land falls under Rajayyapeta, Buchirajupeta, Chandanada, Vempadu and Donivani Lakshmipuram villages of Nakkapalli mandal in Anakapalli district of Andhra Pradesh. Most of the earmarked land is in the possession of APIIC.

The project site lies at about 5 km to the south of National Highway 16 (Kolkata-Chennai), which is part of the golden quadrilateral highway network of India. Currently, an existing major district road (MDR) connecting Vempadu is the primary entry point to the project site. A village road from Kagitha also provides access to NIA Start-Up Area (Phase I Area) which in turn connects BDP area. The rest of the roads in the region are minor village roads.

The site is strategically positioned in terms of Regional Connectivity. The project site lies 4.5 km South of National Highway 16 (Kolkata-Chennai). The nearest rail head is Tuni which is around 30 km. Visakhapatnam Port (70 km aerial distance) and Gangavaram Port (60km aerial distance) are located towards northeast of the site. Both these ports can be accessed from the site via NH-16. The site also has the advantage of using the Visakhapatnam airport is the nearest airport which is situated (around 66 km aerial distance) towards north-eastern side of the site. GoAP is also planning to develop a greenfield international airport near Visakhapatnam city at Bhogapuram.

Andhra Pradesh Road Development Corporation Ltd (APRDC) has initiated development of a 4.5 km long greenfield road from NH-16 to NIA Start-Up Area with a 45 m RoW. This road would form the last mile connectivity for the Start-Up Area of NIA as well as proposed BDP.

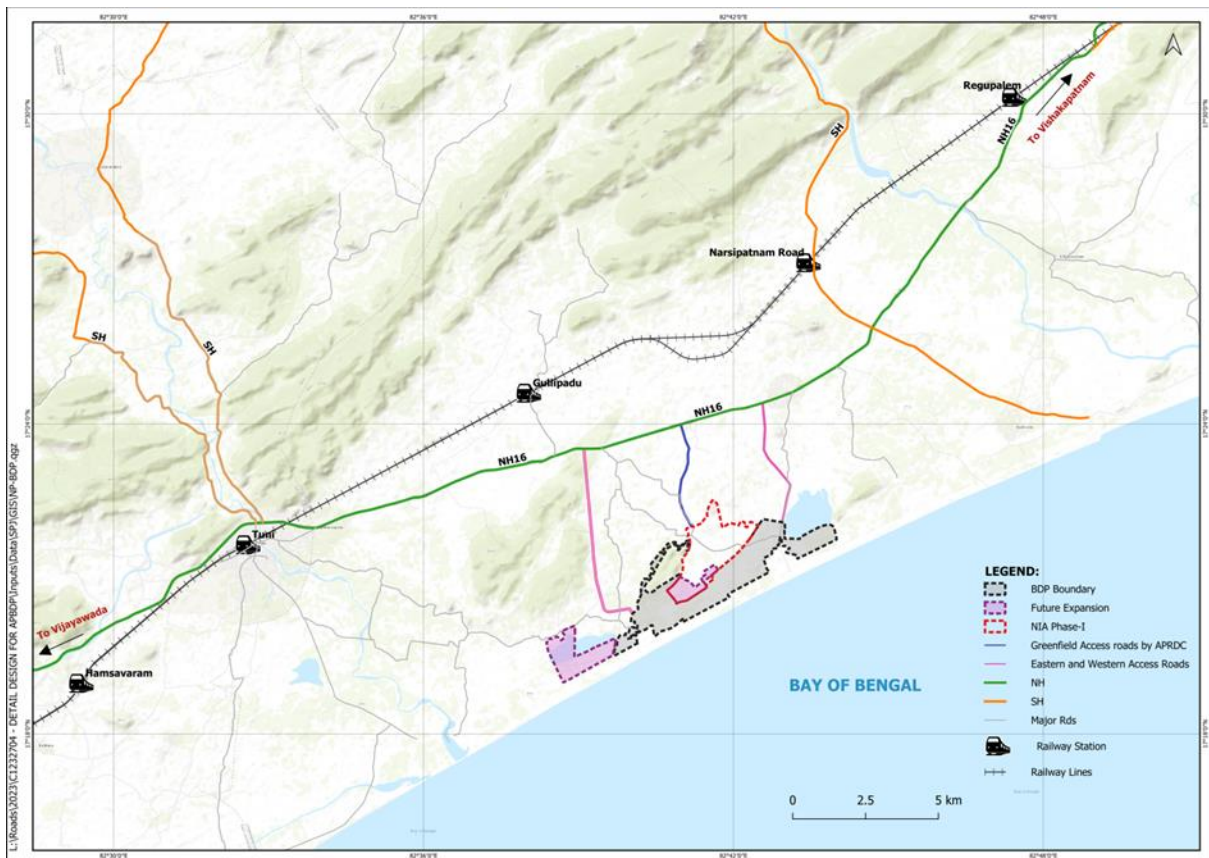


Figure 4 Local Connectivity Map of BDP, Nakkapalli

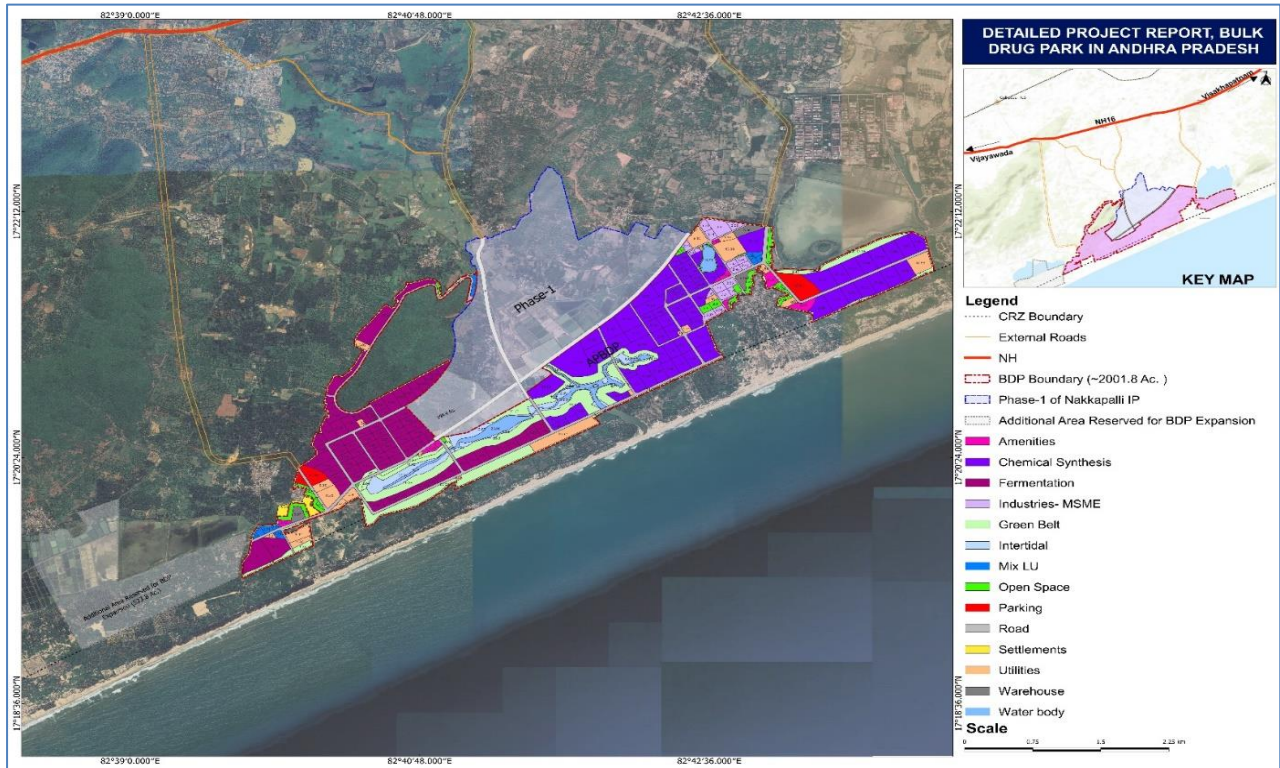
Proposed Landuse

Proposed land use details are given below in Table 1-3 followed by depiction in Figure 1-4.

Landuse	Area (Acres)	Percentage (%)
A) Industrial	1009.5	50.43%

Landuse	Area (Acres)	Percentage (%)
API-DIs Chemical Synthesis	595.4	29.74%
Fermentation	414.1	20.69%
B) Commercial and other plots	149.8	7.48%
Mixed use	17.9	0.89%
Supporting MSME	52.8	2.64%
Warehouse	18.8	0.94%
Amenities	22.1	1.10%
Parking	38.2	1.91%
C) Utilities	120.2	6.00%
D) Open Space	307.6	15.37%
E) Water Body	63.4	3.17%
F) Inter Tidal	76.3	3.81%
G) Green Belt	85.4	4.27%
H) Roads	189.6	9.47%
Total	2001.8	100%

Figure 5 Proposed Land Use Map of APBDP, Nakkapalli



15.2 Procurement of the Site

The Employer Engineer and the Contractor shall, within 15 (fifteen) days of the date of this Agreement, inspect the Site and prepare a memorandum containing an inventory of the Site including the vacant and unencumbered land, buildings, structures, road Works, trees and any other immovable property on or attached to the Site.

The memorandum shall be appended thereto an appendix (the “Appendix”) specifying in reasonable detail those parts of the Site to which vacant access has not been given to the Contractor. The signing of the memorandum, in two counterparts (each of which shall constitute an original), by the authorized representatives of the Parties shall be deemed to constitute valid evidence of giving Site to the Contractor for discharging its obligations under and in accordance with the provisions of this Agreement and for no other purpose whatsoever.

Whenever the Employer is ready to hand over any part or parts of the Site included in the Appendix, it shall inform the Contractor, by notice, of the proposed date and time of such handing over. The Employer Engineer and the Contractor shall, on the date so notified, inspect the specified parts of the Site, and prepare a memorandum containing an inventory of the vacant and unencumbered land, buildings, structures, road Works, trees, and any other immovable property on or attached to the Site so handed over. The signing of the memorandum, in two counterparts (each of which shall constitute an original),

by the authorized representatives of the Parties shall be deemed to constitute valid evidence of giving the relevant site to the Contractor.

The project site in accordance with the provisions of this Clause, shall be handed over within a period of 90 (ninety) days from the date of this Agreement, on no less than 80% (ninety per cent) of the project area. No compensation will be paid for such delay; however, a time extension can be granted upon submission of the schedule impact.

15.3 The site to be Free from Encumbrances

Subject to the provisions of Clause 15.2, the Site shall be made available by the Employer to the Contractor pursuant hereto free from all Encumbrances and occupants and without the Contractor being required to make any payment to the Employer on account of any costs, compensation, expenses and charges for the acquisition and use of such Site for the duration of the Project Completion Schedule. For the avoidance of doubt, it is agreed that the existing rights of way, easements, privileges, liberties, appurtenances, existing water and power transmission lines etc. to the Site shall not be deemed to be Encumbrances. It is further agreed that, unless otherwise specified in this Agreement, the Contractor accepts and undertakes to bear any and all risks arising out of the inadequacy or physical condition of the Site.

15.4 Protection of Site from encroachments

On and after signing the memorandum and/or subsequent memorandum referred to in Clause 15.2, and until the completion of the Defect Liability Period, the Contractor shall maintain a round-the-clock vigil over the Site and shall ensure and ensure that no encroachment thereon takes place. During the Construction Period, the Contractor shall protect the Site from any and all occupations, encroachments, or Encumbrances, and shall not place or create nor permit any Sub-Contractor or other person claiming through or under the Agreement to place or create any Encumbrance or security threat over all or any part of the Site or the Project Assets, or on any rights of the Contractor therein or under this Agreement, save and except as otherwise expressly set forth in this Agreement. In the event of any encroachment or occupation on any part of the Site, the Contractor shall report such encroachment or occupation forthwith to the Employer and undertake its removal at the Contractor's own cost and expenses.

15.5 Special/temporary Roads

The Contractor shall bear all costs and charges for any special or temporary roads required by it in connection with access to the Site. The Contractor shall obtain at its cost such facilities on or outside the Site as may be required by it for the purposes of the Project Works and the performance of its obligations under this Agreement.

15.6 Access to the Employer and the Employer's Engineer

15.6.1 The Site given to the Contractor hereunder shall always be subject to the right of access of the Employer and the Employer's Engineer and their employees and agents for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.

15.6.2 The Contractor shall ensure, subject to all relevant safety procedures, that the Employer has unrestricted access to the Site during any emergency situation, as decided by the Employer's Engineer.

15.7 Fossils

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Employer, who shall issue instructions for dealing with it as per the instructions of concerned Government instrumentality and comply with such instructions as the Employer or the concerned Government Instrumentality may reasonably give for the removal of such property.

15.8 Disposal of Materials

All materials arising from the excavation for road and other structures of the project site shall be disposed of by the Contractor with all leads and lifts at a location identified by the Contractor and as agreed by the Employer. The disposal of the material waste shall be as per the Pollution Control Board (PCB) norms & AP Water, Land, and Trees Act (WALTA), including the removal of any trees & re-planting/ Fresh planting.

16 Utilities and Trees

16.1 Existing Utilities and Roads

Notwithstanding anything to the contrary contained herein, the Contractor shall ensure that the respective entities owning the existing roads, right of way, level crossings, structures, or utilities on, under or above the Site are enabled by it to keep them in continuous satisfactory use, if necessary, by providing suitable temporary diversions with the authority of the controlling body of that road, right of way or utility.

16.2 Shifting of Obstructing Utilities

The Contractor shall, in accordance with Applicable Laws and with the assistance of the Employer, cause shifting of any utility (including electric lines, water pipes and telephone cables) to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project Works in accordance with this Agreement. The actual cost of such shifting, as approved and communicated by the entity owning the utility, shall be paid by the Contractor and reimbursed by the Employer to the Contractor as per applicable guidelines.

Dismantling and removal of existing utilities, non-functional utilities including power distribution lines which are not to be shifted/relocated with the consent of the Employer and the entity owning the utility shall be part of the scope of works under the contract and the cost of dismantling shall be paid by the Contractor and reimbursed by the Employer to the Contractor as per applicable guidelines.. The material so dismantled shall be the property of the owning entity/Employer and shall be handed over to owning entity/Employer.

16.3 New Utilities

16.3.1 The Contractor shall allow, subject to such conditions as the Employer may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables or other public utilities. The contractor shall manage the interface of various services in the designated area and from adjoining areas to ensure seamless integration of services. The contractor shall also manage the interface of services in case implementation is carried out through multiple Contractors. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or Damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 16.3 shall not in any manner relieve the Contractor of its obligation to construct and maintain the Project Works in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Employer.

16.3.2 The Employer may, by notice, require the Contractor to connect any adjoining road to the Project roads, and the connecting portion thereof falling within the Site shall be constructed by the Contractor at the Employer's cost in accordance with Section 17.

16.3.3 Contractor's acknowledgement

The Contractor acknowledges that related Works shall be performed and that it is of paramount importance that the design and execution of the Works are coordinated with any related Works.

16.3.3.1 Related Works' responsibilities

Accordingly, the Contractor shall at all times and otherwise in accordance with the reasonable requirements and directions of the Employer's Engineer:

- take all reasonable steps to co-ordinate and to integrate the design and execution of the Works, including the work of Sub-Contractors, with the activities of the Related Works' Contractors; and
- attend such coordination meetings called by the Employer's Engineer to plan, review and determine coordinated activities for the management of interfaces between the Works and any Related Works; and
- at all times refrain from carrying out any operation on the Site in a manner which is likely to cause damage or inconvenience to the execution of any Related Works; where such damage or inconvenience is the unavoidable consequence of operations properly to be carried out on the Site, the Contractor shall not carry out such operations without first giving reasonable advance notice in writing thereof to the Employer's Engineer (with a copy to those responsible for carrying out any Related Works reasonably likely to be affected thereby) with a view to reaching an agreed procedure to prevent or minimize any such damage or inconvenience. In particular, the Contractor shall at all times prevent the discharge of surface water across the Site except where the Employer's Engineer gives its prior written consent for such discharge; and
- at all times co-operate with the Employer, the Employer's Engineer and any Related Works Contractors so as to promote and foster a coordinated and integrated approach to the Works and any Related Works; and
- monitor the coordination and integration of the Works with any Related Works and advise the Employer's Engineer in writing as and when it becomes apparent that the design or execution of the Works is likely to be the subject of delay and/or disruption and recommend reasonable proposals to reduce or prevent such delay and/or disruption.

16.3.4 In the event the Construction of any Works is affected by a new utility or Works undertaken in accordance with this Clause 16.3, the Contractor shall be entitled to a reasonable Time Extension as determined by the Employer's Engineer.

16.4 Felling of Trees

The Employer shall assist the Contractor in obtaining the Applicable Permits for the felling of trees to be identified by the Employer for this purpose if and only if such trees cause a Material Adverse Effect on the Construction or Maintenance of the Project Works. The cost of such felling trees shall be paid by the

Contractor and reimbursed by the Employer to the Contractor as per applicable guidelines. In the event of any delay in felling thereof for reasons beyond the control of the Contractor; it shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of delay in the felling of trees. The Parties hereto agree that the felled trees (except the Scheduled trees, which shall be Employers Property) shall be deemed to be owned by the Employer and shall be disposed of in such a manner and subject to such conditions as the Employer may in its sole discretion deem appropriate, as appropriate with required statutory approvals. Obtaining the required statutory approvals for the above shall be the responsibility of the Contractor. For the avoidance of doubt, the Parties agree that if any felling of trees hereunder is in a forest area, the Applicable Permit thereof shall be procured by the Employer within the time specified in the Agreement. The provisions of the AP WALTA Act & other Laws for Ecological balancing while removal of any trees shall be followed where necessary & not otherwise & that too to the extent possible by re-planting those or with Fresh planting more in number with a green belt.

17 Design and Construction of the Project Works

17.1 Obligations Prior to Commencement of Works

17.1.1 Within 15 (fifteen) days of the Appointed Date, the Contractor shall:

- a) appoint its representative, duly authorized to deal with the Employer in respect of all matters under or arising out of or relating to this Agreement;
- b) appoint a design manager (the “Design Manager”) who will head the Contractor’s design unit and shall be responsible for surveys, investigations, collection of data, and preparation of preliminary and detailed designs;
- c) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, the Applicable Laws and Applicable Permits; and
- d) make its own arrangements for the quarrying of Materials needed for the Project Works under and in accordance with the Applicable Laws and Applicable Permits.

17.1.2 The Employer has appointed an engineer (the “Employer’s Engineer”) to discharge the functions and duties specified in this Agreement and shall notify the Contractor of the name and address of the Employer’s Engineer in due course of time.

17.1.3 Within 30 (thirty) days of the Appointed Date, the Contractor shall submit to the Employer and the Employer’s Engineer a Programme (the “Programme”) for the Works, developed using networking techniques giving the following details:

17.1.4 Part I-Contractor’s organization for the Project, the general methods and arrangements for design and Construction, Environmental Management Plan, Environment and Social Management Plan, Quality Assurance Plan including design quality plan, Traffic Management and Health & Safety plan covering the safety of users and workers during Construction, Contractor’s key personnel and equipment.

17.1.5 Part II- Programme for completion of all stages of Construction given in Schedule-C and Project Milestones of the Works as specified in the Project Completion Schedule set forth in Schedule-E. The Programme shall include:

- g) the order in which the Contractor intends to carry out the Works, including the anticipated timing of Design and stages of Works;
- h) the periods for reviews under Clause 17.2;
- i) the sequence and timing of inspections and Tests specified in this Agreement.

17.1.6 The Contractor shall submit a revised Programme whenever the previous Programme is inconsistent with the actual progress or with the Contractor’s obligations.

17.1.7 Part III- Monthly cash flow forecast.

17.1.8 The Contractor shall compute, on the basis of the Drawings prepared in accordance with Clause 17.2.4, and provide to the Employer's Engineer, the length, area and numbers, as the case may be, in respect of the various items of work specified in Schedule-C and comprising the Scope of the Project. The Parties expressly agree that these details shall form the basis for estimating the interim payments for the Works in accordance with the provisions of Clause 26.3. For the avoidance of doubt, the sum of payments to be computed in respect of all the items of work shall not exceed the Contract Price, as may be adjusted in accordance with the provisions of this Agreement.

17.1.9 The Contractor shall appoint a safety consultant (the "Safety Consultant") to carry out a fire and safety audit at the design stage of the Project Works in accordance with the Applicable Laws and Good Industry Practice. The Safety Consultant shall be appointed after proposing to the Employer a panel of three names of qualified and experienced firms along with their firms and personnel experience from whom the Employer may choose one to be the Safety Consultant. Provided, however, if the panel is not acceptable to the Employer and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Employer a revised panel of three names from the firms empanelled as safety consultants by the Employer for obtaining the consent of the Employer. The Contractor shall also obtain the consent of the Employer for the key personnel of the Safety Consultant who shall have adequate experience and qualifications in safety audit of similar infrastructure projects. The Employer shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor and the Contractor shall propose a revised panel for the consent of the Employer.

17.1.10 The safety audit pursuant to Clause 17.1.9 shall be carried out by the Safety Consultant in respect of all such design details that have a bearing on the safety of Users as well as pedestrians and animals involved in or associated with accidents. The recommendations of the Safety Consultant shall be incorporated in the design of the Project Works and the Contractor shall forward to the Employer's Engineer a certificate to this effect together with the recommendations of the Safety Consultant. In the event that any Works required by the Safety Consultant shall fall beyond the scope as mentioned in Volume II, the Contractor shall make a report thereon and seek the instructions of the Employer. For the avoidance of doubt, the Safety Consultant to be engaged by the Contractor shall be independent of the design and implementation team of the Contractor.

17.2 Design and Drawings

17.2.1 Design and Drawings shall be developed in conformity with the Specifications and Standards set forth in Volume II and Volume III. In the event, the Contractor requires any relaxation in design standards due to restricted Right of Way in any section or non-availability of the project site, the alternative design criteria for such Section shall be provided for review by the Employer's Engineer.

The Contractor within 60 days of LOA shall submit the drawing and document list for Employer Engineer's Approval.

17.2.2 The Contractor shall appoint a proof check consultant (the "Proof Consultant") after proposing to the Employer a panel of three names of qualified and experienced firms from whom the Employer may choose one to be the Proof Consultant. Provided, however, that if the panel is not acceptable to the Employer and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Employer a revised panel of three names from the firms empanelled as proof consultants by the Employer along with their firms and personnel' experience for obtaining the consent of the Employer. The Contractor shall also obtain the consent of the Employer for two key personnel of the Proof Consultant who shall have adequate experience and qualifications of such infrastructure projects including Road works including Structures & Area Landscaping, Stormwater Drain, Water distribution system, Recycle water Supply, Wastewater Conveyance Network System HTDiS and LTDiS and Treatment System, Power Supply and Distribution, Pure Water Supply (EDI+ RO Plant of 4.4 MLD Capacity), Truck Parking, Emergency Response Centre, Boundary fence, CETP with Marine Outfall System and Partly with ZLD System, Steam Generation Plant, Common Solvent Recovery System, Solid waste management, R&D Lab & Centre of Excellence, Analytical Testing Labs, Incubation Centre with Testing labs & equipment, Admin Building inclusive of all furnishings, Warehouse and any other relevant discipline. The Employer shall, within 30 (thirty) days of receiving a proposal from the Contractor or providing sufficient information as desired by the Employer whichever is later hereunder, convey its decision, with reasons, to the Contractor for engaging Proof Consultant.

17.2.3 The Proof Consultant shall:

- a) evolve a systems approach with the Design Manager so as to minimize the time required for final designs and Construction Drawings covering and ensuring compliance with respect to the scope of the contract agreement.
- b) Proof-check the detailed calculations, Drawings and designs, which have been approved by the Design Manager and ensure compliance with respect to the scope of the contract agreement.

17.2.4 In respect of the Contractor's obligations with respect to the design and Drawings of the Project Works, as set forth in Volume III, the following shall apply:

- a) The Contractor shall prepare and submit, within the stipulated time and in such sequence as is consistent with the Project Completion Schedule, five copies and one set of soft copies in CD/pen drive each of the design and Drawings, duly certified by the Proof Consultant, to the Employer's Engineer for review. Provided, that in respect of Road works including Structures & Area Landscaping, Stormwater Drain, Water distribution system, Recycle water Supply, Wastewater Conveyance Network System HTDiS and LTDiS and Treatment

System, Power Supply and Distribution, Pure Water Supply (EDI+ RO Plant of 4.4 MLD Capacity), Truck Parking, Emergency Response Centre, Boundary fence, CETP with Marine Outfall System and Partly with ZLD System, Steam Generation Plant, Common Solvent Recovery System, Solid waste management, R&D Lab & Centre of Excellence, Analytical Testing Labs, Incubation Centre with Testing labs & equipment, Admin Building inclusive of all furnishings, Warehouse the Employer's Engineer may require additional Drawings for its review in accordance with Good Industry Practice.

- b) Drawings submitted to the Employer's Engineer shall be deemed to have been certified by the Design Manager and verified and approved by the proof consultant in respect of design and engineering including field construction criteria and constructability thereto and conform with the Scope of the Project, the Specifications and Standards and the Applicable Laws.
- c) Within 21 (twenty-one) days of the receipt of the Drawings, the Employer's Engineer shall review the same and convey its observations to the Contractor with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards. The Contractor shall not be obliged to await the observations of the Employer's Engineer on the Drawings submitted pursuant hereto beyond the said period of 21 (twenty-one) days and may begin or continue Works at its discretion and risk;
- d) if the aforesaid observations of the Employer's Engineer indicate that the Drawings are not in conformity with the Scope of the Project or the Specifications and Standards, such Drawings shall be revised by the Contractor in conformity with the provisions of this Agreement and resubmitted to the Employer's Engineer for review. The Employer's Engineer shall give its observations, if any, within 15 (fifteen) days of receipt of the revised Drawings. In the event the Contractor fails to revise and resubmit such Drawings to the Employer's Engineer for review as aforesaid, the Employer's Engineer in consultation with the Employer may withhold the payment for the affected Works in accordance with the provisions of Clause 26.5.3. If the Contractor Disputes any decision, direction or determination of the Employer's Engineer hereunder, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure;
- e) no review and/or observation of the Employer's Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Employer's Engineer or the Employer be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Drawings, they and the Construction Works shall be corrected at the Contractor's cost, notwithstanding any review under this Section 17;
- f) the Contractor shall be responsible for delays in submitting the Drawing as set forth in

Volume III caused by reason of delays in surveys and field investigations, and shall not be entitled to seek any relief in that regard from the Employer; and

- g) the Contractor warrants that its designers, including any Third Parties engaged by it, shall have the required experience and capability in accordance with Good Industry Practice and it shall indemnify the Employer against any damage, expense, liability, loss or claim, which the Employer might incur, sustain or be subject to arising from any breach of the Contractor's design responsibility and/or warranty set out in this Clause.

17.2.5 Any cost or delay in Construction arising from review by the Employer's Engineer shall be borne by the Contractor.

17.2.6 Works shall be executed in accordance with the Drawings provided by the Contractor in accordance with the provisions of this Clause 17.2 and the observations of the Employer's Engineer thereon as communicated pursuant to the provisions of Clause 17.2.4 (d). Such Drawings shall not be amended or altered without prior written notice to the Employer's Engineer. If a Party becomes aware of an error or Defect of a technical nature in the design or Drawings, that Party shall promptly give notice to the other Party of such error or defect. Works shall only be carried out on drawings duly signed and stamped as Good for construction by Employer's Engineer.

17.2.7 Within 30 (thirty) days of the Project Construction Completion Date before issuance of the Construction Completion certificate, the Contractor shall furnish to the Employer and the Employer's Engineer a complete set of as-built Drawings, in 5 (Five) hard copies and soft copy form or in such other medium as may be acceptable to the Employer, reflecting the Project Works as designed, engineered and constructed, including an as-built survey illustrating the layout of the Project Works and setback lines, if any, of the buildings and Structures forming part of Project Facilities.

17.3 Construction of the Project Works

17.3.1 The Contractor shall construct the Project Works as specified in Volume II and in conformity with the Specifications and Standards set forth in Volume II. The Contractor shall be responsible for the correct positioning of all parts of the Works and shall rectify any error in the positions, levels, dimensions or alignment of the Works. The 731st day (24 months) from the Appointed Date shall be the scheduled completion date for construction (the "Scheduled Completion Date") and the Contractor agrees and undertakes that the Construction shall be completed on or before the Scheduled Completion Date, including any extension thereof.

17.3.2 The Contractor shall construct the Project Works in accordance with the Project Completion Schedule set forth in Schedule-E. In the event that the Contractor fails to achieve any Project Milestone or the Scheduled Completion Date (including any extension granted by the Employer) from the date set forth in Schedule-E, unless such failure has occurred due to Force Majeure or for reasons solely attributable to the Employer, it shall pay Damages to the Employer of a sum

calculated at the rate of 0.05% (zero point zero five percent) of the Contract Price for delay of each day reckoned from the date specified in Schedule –E and until such Project Milestone is achieved or the Works are completed; provided that if the period for any or all Project Milestones or the Scheduled Completion Date is extended in accordance with the provisions of this Agreement, the dates set forth in Schedule-E shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if Schedule-E has been amended as above; provided further that in the event the Works are completed within or before the Scheduled Completion Date including any Time Extension, applicable for that work or section, the Damages paid under this Clause shall be refunded by the Employer to the Contractor, but without any interest thereon. In case the Contractor completes the project in the stipulated time then damages recovered if any shall become refundable. Thus, Delay damages recovered under this clause shall not become refundable if the time extension for individual milestones and/or the overall time of completion is not approved by the Employer. For the avoidance of doubt, it is agreed that recovery of Damages under Clause 17.3.2 shall be without prejudice to the rights of the Employer under this Agreement including the right of Termination thereof. The Parties further agree that Time Extension hereunder shall only be reckoned for and in respect of the affected Works as specified in Clause 17.5.2.

17.3.3 The Employer shall notify the Contractor of its decision to impose Damages in pursuance with the provisions of this Clause 17.3. Provided that no deduction on account of Damages shall be affected by the Employer without notifying the Contractor of its decision to impose the Damages, and taking into consideration the representation, if any, made by the Contractor within 20 (twenty) days of such notice. The Parties expressly agree that the total amount of Damages under Clause 17.3.2 shall not exceed 5% (five per cent) of the Contract Price.

17.4 Maintenance during the Construction Period

During the Construction Period, the Contractor shall maintain, at its cost, the existing lane(s) of the Project roads so that the traffic worthiness and safety thereof are at no time materially inferior as compared to their condition 10 (ten) days prior to the date of this Agreement, and shall undertake the necessary repair and maintenance works for this purpose; provided that the Contractor may, at its cost, interrupt and divert the flow of traffic if such interruption and diversion is necessary for the efficient progress of Works and conforms to Good Industry Practice; provided further that such interruption and diversion shall be undertaken by the Contractor only with the prior written approval of the Employer's Engineer which approval shall not be unreasonably withheld. For the avoidance of doubt, it is agreed that the Contractor shall at all times be responsible for ensuring the safe operation of the Project roads.

17.5 Extension of time for Completion

17.5.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to an extension of time in the Project Completion Schedule (the

“Time Extension”) to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:

- i. delay in providing the Site, environmental clearances (Bidder to note that delay in obtaining Environmental clearance will be without any financial implications to the Employer).
- ii. Change of Scope (unless an adjustment to the Scheduled Completion Date has been agreed under Section 20);
- iii. occurrence of a Force Majeure Event;
- iv. any delay, impediment or prevention caused by or attributable to the Employer, the Employer's personnel or the Employer's other Contractors on the Site; and
- v. any other cause or delay which entitles the Contractor to Time extension in accordance with the provisions of this Agreement.

17.5.2 The Contractor shall, no later than 15 (fifteen) business days from the occurrence of an event or circumstance specified in Clause 17.5.1, inform the Employer's Engineer by notice in writing, with a copy to the Employer, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (fifteen) business days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.

17.5.3 Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected hereunder.

17.5.4 In the event of the failure of the Contractor to issue to the Employer's Engineer a notice in accordance with the provisions of Clause 17.5.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this clause 17.5.4, the Employer shall be discharged from all liability in connection with the claim.

17.5.5 The Employer's Engineer shall, on receipt of the claim in accordance with the provisions of Clause 17.5.2, examine the claim expeditiously within the time frame specified herein. In the event the Employer's Engineer requires any clarifications to examine the claim, the Employer's Engineer shall seek the same within 15 (fifteen) days from the date of receiving the claim. The Contractor shall, on receipt of the communication of the Employer's Engineer requesting for clarification, furnish the same to the Employer's Engineer within 10 (ten) days thereof. The Employer's Engineer shall, within a period of 60 (sixty) days from the date of receipt of such clarifications, forward in writing to the Contractor its determination of Time Extension.

17.5.6 Provided that when determining each extension of time under Clause 17.5, the Employer's Engineer shall review previous determinations and may increase but shall not decrease the total Time Extension.

17.5.7 If the event or circumstance giving rise to the notice has a continuing effect:

- a) a fully detailed claim shall be considered as interim;
- b) the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Employer's Engineer may reasonably require; and
- c) the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Employer's Engineer shall examine the same in accordance with the provisions of Clause 17.5.5 within a period of 60 (sixty) days of the receipt thereof.

17.6 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavor to complete the balance work expeditiously and shall pay Damages to the Employer in accordance with the provisions of Clause 17.3.2 for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Employer under this Agreement including the right to Termination under Clause 30.1.

17.7 Maintenance Manual

No later than 60 (sixty) days prior to the Project Completion Date but before issuance of Project Completion cum Taking Over Certificate, the Contractor shall, in consultation with the Employer's Engineer, evolve a Maintenance Manual (the "Maintenance Manual") for the regular and preventive Maintenance of the Project Works in conformity with the Specifications and Standards, safety requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Employer's Engineer. The Employer's Engineer shall review the Maintenance Manual within 15 (fifteen) days of its receipt and communicate its comments to the Contractor for necessary modifications, if any.

17.8 Failure in Guarantees and Liquidated Damages

17.8.1 Guarantee Test

17.8.1.1 The Guarantee Test and repeats thereof shall be conducted by the Contractor during Commissioning of the Facilities or the relevant part thereof to ascertain whether the Facilities or the relevant part can attain the Functional Guarantees specified in the clause 1.7 of Vol II

(Functional Guarantees) to the Contract Agreement. The Employer shall promptly provide the Contractor with such information as the Contractor may reasonably require in relation to the conduct and results of the Guarantee Test and any repeats thereof.

17.8.1.2 If for reasons not attributable to the Contractor, the Guarantee Test of the Facilities or the relevant part thereof cannot be successfully completed within the period from the date of Completion specified in the Article 19 or any other period agreed upon by the Employer and the Contractor, the Contractor shall be deemed to have fulfilled its obligations with respect to the Functional Guarantees, clauses 17.8.3.2 and 17.8.3.3 shall not apply the Functional Guarantees

17.8.2 Delayed Guarantee Test

17.8.2.1 In the event that the Contractor is unable to proceed with the -the Guarantee Test pursuant to Clause 17.8.1, for reasons attributable to the Employer either on account of non-availability of other facilities under the responsibilities of other contractor(s), or for reasons beyond the Employer's control, the provisions leading to "deemed" completion of activities such as Completion and Contractor's obligations regarding Defect Liability Period, pursuant to Article 24, Functional Guarantee, pursuant to Clause 17.8.3.

17.8.2.2 When the Contractor is notified by the Employer that Contractor will be unable to proceed with the activities and obligations pursuant to this Clause 17.8.2.1, the Contractor shall be entitled to the following:

- a) the Time of Completion shall be extended for the period of suspension without imposition of liquidated damages;
- b) payments due to the Contractor in accordance with the provision specified in the Contract Agreement, which would not have been payable in normal circumstances due to noncompletion of the subject activities, shall be released to the Contractor against submission of a security in the form of a bank guarantee of equivalent amount acceptable to the Employer, and which shall become null and void when the Contractor will have complied with its obligations regarding those payments, subject to the provision of Clause 17.8.2.3 below;

17.8.2.3 In the event that the period of suspension under above Subclause 17.8.2.1 actually exceeds 180 days, the Employer and Contractor shall mutually agree to any additional compensation payable to the Contractor.

17.8.2.4 When the Contractor is notified by the Employer that the plant is ready for Pre-commissioning, the Contractor shall proceed without delay in performing all the specified activities and obligations under the contract.

17.8.3 Functional Guarantees



- 17.8.3.1 The Contractor guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in the Appendix in Vol II (Functional Guarantees) to the Contract Agreement, subject to, and upon the conditions therein specified.
- 17.8.3.2 If, for reasons attributable to the Contractor, the minimum level of the Functional Guarantees specified in the Appendix in Vol II (Functional Guarantees) to the Contract Agreement are not met either in whole or in part, the Contractor shall at its cost and expense make such changes, modifications, and/or additions to the Plant or any part thereof as may be necessary to meet at least the minimum level of such Guarantees. The Contractor shall notify the Employer upon completion of the necessary changes, modifications, and/or additions, and shall request the Employer to repeat the Guarantee Test until the minimum level of the Guarantees has been met. If the Contractor eventually fails to meet the minimum level of Functional Guarantees, the Employer may consider termination of the Contract, pursuant to Clause 30
- 17.8.3.3 If, for reasons attributable to the Contractor, the Functional Guarantees specified in the Appendix in Vol II (Functional Guarantees) to the Contract Agreement are not attained either in whole or in part, but the minimum level of the Functional Guarantees specified in the said Appendix to the Contract Agreement is met, the Contractor shall, at the Contractor's option, either
- a) make such changes, modifications, and/or additions to the Facilities or any part thereof that are necessary to attain the Functional Guarantees at its cost and expense, and shall request the Employer to repeat the Guarantee Test or
 - b) pay liquidated damages to the Employer in respect of the failure to meet the Functional Guarantees in accordance with the provisions in the Appendix (Functional Guarantees) to the Contract Agreement.
- 17.8.3.4 The payment of liquidated damages under this clause 17.8.3.3, up to the limitation of liability specified in the Appendix in Vol II (Functional Guarantees) to the Contract Agreement, shall completely satisfy the Contractor's guarantees under this clause 17.8.3.3, and the Contractor shall have no further liability whatsoever to the Employer in respect thereof. Upon the payment of such liquidated damages by the Contractor, the Employer shall issue the Operational Acceptance Certificate for the Facilities or any part thereof in respect of which the liquidated damages have been so paid.

18 Quality Assurance, Monitoring and Supervision

18.1 Quality of Materials and Workmanship

The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.

18.2 Quality Control System

18.2.1 The Contractor shall establish a quality control mechanism to ensure compliance with the provisions of this Agreement (the “Quality Assurance Plan” or “QAP”).

18.2.2 The Contractor shall, within 30 (thirty) days of the Appointed Date, submit to the Employer’s Engineer its Quality Assurance Plan which shall include the following:

- a) organization, duties and responsibilities, procedures, inspections and Documentation;
- b) quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, checklist for Site activities, and proforma for testing and calibration in accordance with the Specifications as mentioned in this tender document, relevant specifications, BIS standards, Indian Standards relevant to project components and Good Industry Practice; and
- c) Internal quality audit system.

18.2.3 The Employer’s Engineer shall convey its comments to the Contractor within a period of 21 (twenty-one) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 18.2.

18.2.4 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets and workmanship in accordance with the Quality Assurance Plan.

18.2.5 The cost of testing of Construction, Materials, and workmanship under this Section 18 shall be borne by the Contractor.

18.3 Methodology

The Contractor shall, at least 15 (fifteen) days prior to the commencement of the Construction, submit to the Employer’s Engineer for review, the methodology proposed to be adopted for executing the Works, giving details of equipment to be deployed, traffic management and measures for ensuring safety. The Employer’s Engineer shall complete the review and convey its comments to the Contractor within a period of 15 (fifteen) days from the date of receipt of the proposed methodology from the Contractor.

18.4 Inspection and Technical Audit by the Employer

The Employer or any representative authorized by the Employer on this behalf may inspect and review the progress and quality of the Construction of Project Works and issue appropriate directions to the Employer's Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

18.5 External Technical Audit

At any time during Construction, the Employer may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Employer, shall be notified to the Contractor and the Employer's Engineer for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 18.5, the external technical audit shall not affect any obligations of the Contractor or the Employer's Engineer under this Agreement.

18.6 Inspection of Construction records

The Employer shall have the right to inspect the records of the Contractor relating to the Works.

18.7 Monthly Progress Reports

During the Construction Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Employer and the Employer's Engineer a monthly report on the progress of the Works for their review and shall promptly give such other relevant information as may be required by the Employer's Engineer.

18.8 Inspection

18.8.1 The Employer's Engineer and its authorized representative shall at all reasonable times:

- a) have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and

The Contractor shall give the Employer's Engineer and its authorized agents access, facilities, and safety equipment for carrying out their obligations under this Agreement.

18.8.2 The Employer's Engineer shall submit a monthly inspection report (the "Inspection Report") to the Employer and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of the Inspection Report by the Employer's Engineer shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

18.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the

Employer's Engineer for pre-Construction review:

- a) manufacturer test reports and standard samples of manufactured Materials; and
- b) samples of such other Materials as the Employer's Engineer may require shall be got tested by State/Central Government approved laboratories at the cost of the Contractor.

18.10 Tests

18.10.1 For determining that the Works conform to the Specifications and Standards, the Employer's Engineer shall require the Contractor to carry out or cause to be carried out Tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The test checks by the Employer's Engineer shall comprise at least 20 (twenty) per cent of the quantity or number of Tests prescribed for each category or type of test for quality control by the Contractor.

18.10.2 In the event that the results of any Tests conducted under Clause 18.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Employer's Engineer on this behalf. The Employer's Engineer shall require the Contractor to carry out or cause to be carried out Tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such Tests and remedial measures in pursuance thereof shall be solely borne by the Contractor.

18.11 Examination of Work Before Covering up

In respect of the work which the Employer's Engineer is entitled to examine, inspect, measure and/or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Employer's Engineer whenever any such work is ready and before it is covered up. The Employer's Engineer shall then either carry out the examination, inspection or testing without unreasonable delay or promptly give notice to the Contractor that the Employer's Engineer does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, then Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Employer's Engineer to conduct its inspection, measurement, or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Employer's Engineer within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Employer's Engineer, the Contractor shall be entitled to assume that the Employer's Engineer would not undertake the said inspection.

18.12 Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or

workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Employer's Engineer shall reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.

If the Employer's Engineer requires the Plant, Materials, design, or workmanship to be retested, the Tests shall be repeated under the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Employer to incur any additional costs, such cost shall be recoverable by the Employer from the Contractor; and may be deducted by the Employer from any monies due to be paid to the Contractor.

18.13 Remedial Work

18.13.1 Notwithstanding any previous test or certification, the Employer's Engineer may instruct the Contractor to:

- a) remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;
- b) remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and
- c) Execute any work which is urgently required for the safety of the Project Works, whether because of an accident, unforeseen event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 28.6 shall apply.
- d) Duty of the Contractor to comply with queries on defects in the works if any: In case the Vigilance & Enforcement Dept. and the Anti-Corruption Bureau have taken up any investigation and notice any defects, the Contractor has to invariably follow the recommendations including to re-construct or to carry out defects and also accept recoveries for the defective work.

18.13.2 If the Contractor fails to comply with the instructions issued by the Employer's Engineer under Clause 18.13.1, within the time specified in the Employer's Engineer's notice or as mutually agreed, the Employer's Engineer may advise the Employer to have the work executed by another agency. The cost so incurred by the Employer for undertaking such work shall, without prejudice to the rights of the Employer to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Employer from any money due to be paid to the Contractor.

18.14 Delays during Construction

Without prejudice to the provisions of Clause 17.3.2, in the event the Contractor does not achieve any of the Project Milestones or the Employer's Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Project Works is not likely to be achieved

by the end of the Scheduled Completion Date, it shall notify the same to the Contractor, and the Contractor shall, within 15 (fifteen) days of such notice, by a communication inform the Employer's Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

18.15 Quality Control Records and Documents

The Contractor shall hand over to the Employer's Engineer a copy of all its quality control records and documents before the Project Completion cum Taking-Over Certificate is issued pursuant to Clause 19.2.

18.16 Video Recording

During the Construction Period, the Contractor shall provide Drone Video every calendar quarter & photographs every month to the Employer, which will be compiled into a 3 (three)-hour covering the status and progress of Works in that quarter. The video recording shall be provided to the Employer no later than 15 (fifteen) days after the close of each quarter after the Appointed Date.

18.17 Suspension of Unsafe Construction Works

- 18.17.1** Upon recommendation of the Employer's Engineer to this effect, the Employer may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Employer's Engineer, such work threatens the safety of the Users and pedestrians.
- 18.17.2** The Contractor shall, pursuant to the notice under Clause 18.17.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Employer and thereupon carry out remedial measures to secure the safety of suspended Works, the Users and pedestrians. The Contractor may by notice require the Employer's Engineer to inspect such remedial measures forthwith and make a report to the Employer recommending whether or not the Suspension hereunder may be revoked. Upon receiving the recommendations of the Employer's Engineer, the Employer shall either revoke such Suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary for the reasonable opinion of the Employer, and the procedure set forth in this Clause 18.17 shall be repeated until the Suspension hereunder is revoked.
- 18.17.3** Subject to the provisions of Clause 28.6, all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of Suspension (the "Preservation Costs"), shall be borne by the Contractor; provided that if the Suspension has occurred as a result of any breach of this Agreement by the Employer, the Preservation Costs shall be borne by the Employer.

18.17.4 If the Suspension of Works is for reasons not attributable to the Contractor, the Employer's Engineer shall determine any Time Extension to which the Contractor is reasonably entitled.

18.17.5 The Contractor shall take up the Aerial photography based on the details provided in Schedule O.

18.18 Third-Party Inspection

Third Party Inspection agency shall be appointed by the Contractor at their own cost after proposing to the Employer a panel of three names of qualified and experienced firms from whom the Employer may choose one to be the Third Party Inspection Agency. Provided, however, that if the panel is not acceptable to the Employer and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Employer a revised panel of three names from the firms empaneled as Third Party Inspection agencies by the Employer for obtaining the consent of the Employer and shall also provide a sole nodal coordinator for all related activities regarding third-party inspections. The Employer shall, within 30 (thirty) days of receiving a proposal from the Contractor or providing sufficient information as desired by the Employer whichever is later hereunder, convey its decision, with reasons, to the Contractor for engaging Third Party Inspection agency.

Material such as all types of pipes (of all sizes) R.C.C. including strand, P.S.C./ bearings, expansion joints/ M.S./ D.I./ CI /A.C./ HDPE/ PVC/ GRP, pressure vessels & other power equipment like transformers, switchgear, cables, panels, etc. All types of valves (of all sizes), and any other materials as per requirements which are supplied by the Contractor under this contract are subject to third-party inspection. The charges for such inspection shall be paid by the Contractor. All the arrangements for inspection i.e. measuring tools, testing equipment and tools, labour required for handling materials during testing etc. shall be made available / arranged by the manufacturer / Vendor / Contractor in their premises at their costs. These costs shall be deemed included in Contractor's price Bid and nothing extra shall be paid to the said account. If any particular testing facility is not available at the premises/location of the Factory, then the test shall be arranged by the factory owner / Vendor at his own cost at other locations/test laboratories. All expenses in this regard shall also have to be borne by the manufacturer / vendor/ Contractor only.

If the material inspected fails during a test at no fault of the inspecting agency, fees are payable to the inspecting agency for the said inspection and for any further re-inspection of the same material.

If it is subsequently observed that there are defects in the quality of the material, the Contractor shall replace the material without any extra cost.

In addition to third-party inspection, the employer's Engineer or his representative may conduct inspections intermittently.

Third-Party Inspection Report: The third-party inspection report merely in the certificate form stating that pipes/valves/specials or any other material inspected are found satisfactory will not be accepted,

but it should be in the form of the detailed report stating the parameters checked & observations made with comments of the Inspecting Officer in accordance with the respective Specifications / detailed item wise specifications / as per Tender notice.

19 Completion Certificate

19.1 Tests on Completion

19.1.1 At least 30 (thirty) days prior to the likely completion of the Project Works, or a Section thereof, the Contractor shall notify the Employer's Engineer of its intent to subject the Project Works or a Section thereof, to Tests. The date and time of each of the Tests shall be determined by the Employer's Engineer in consultation with the Contractor and notified to the Employer who may designate its representative to witness the Tests. The Contractor shall either conduct the Tests as directed by the Employer's Engineer or provide such assistance as the Employer's Engineer may reasonably require for conducting the Tests and the costs for such tests shall be borne by the Contractor. In the event of the Contractor and the Employer's Engineer failing to mutually agree on the dates for conducting the Tests, the Contractor shall fix the dates by giving not less than 10 (ten) days' notice to the Employer's Engineer.

19.1.2 All Tests shall be conducted in accordance with Schedule-F. The Employer's Engineer shall either conduct or observe, monitor and review the Tests conducted by the Contractor, as the case may be, and review the results of the Tests to determine compliance of the Project Works or a Section thereof, with Specifications and Standards and if it is reasonably anticipated or determined by the Employer's Engineer during the course of any Test that the performance of the Project Works or Section or any part thereof, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify the Defect or deficiencies. Upon completion of each Test, the Employer's Engineer shall provide to the Contractor and the Employer copies of all Test data including detailed Test results. For the avoidance of doubt, it is expressly agreed that the Employer's Engineer may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project Works or Section thereof with the Specifications and Standards.

19.2 Certificate of Substantial Completion (Work Completed except Trial run / commissioning wherever applicable)

19.2.1 Subject to the provisions of Clause 19.2.5, upon completion of all Works forming part of the Project Works, save and except the Works for which Time Extension has been granted under Clause 17.5, the Employer's Engineer (with approval from Employer) shall, at the request of the Contractor, issue a certificate of Substantial Completion in the form set forth in Schedule-G (the "Substantial Completion Certificate") if the Tests for and in respect of the completed Works are successful. The Substantial Completion Certificate shall have appended thereto a list of outstanding items of work (the "Punch List") that need to be completed in accordance with the provisions of this Agreement. The Contractor undertakes to complete the minor outstanding items of Works in respect of those Sections of the Project Works for which the Substantial Completion Certificate has been issued, within a period of 30 (thirty) days of the date of Substantial Completion Certificate, and those parts

of the Works in respect of which Time Extension has been granted, within the extended period thereof. For the avoidance of doubt, the Parties agree that the Punch List shall include all Works for which Time Extension has been granted and shall also include any minor outstanding items of work forming part of the completed Sections if such Works do not materially affect the use of the completed Sections for their intended purpose. The Parties further agree that Substantial Completion Certificate shall not be issued if the completed Works cannot be safely and reliably placed in service of the Users thereof.

- 19.2.2** Upon issue of Substantial Completion Certificate, the provisions of Sections 21 and 24 shall apply to the completed parts of the Project Works and the property and ownership of all such completed Works shall vest in the Employer.
- 19.2.3** If the Employer's Engineer determines that the Project Works or any completed part thereof does not conform to the provisions of this Agreement and cannot be safely and reliably placed in operation, it shall forthwith make a report on this behalf and send copies thereof to the Employer and the Contractor and withhold issuance of the Substantial Completion Certificate until the Defects or deficiencies are rectified by the Contractor and Tests are successful in accordance with this Section 19.
- 19.2.4** Notwithstanding anything to the contrary contained in Clause 19.2.3, the Employer may, at any time after receiving a report from the Employer's Engineer under that Clause, direct the Employer's Engineer to issue a Substantial Completion Certificate under Clause 19.2.1 and such direction shall be complied forthwith.
- 19.2.5** No Substantial Completion Certificate shall be issued under the provisions of this Clause 19.2 until the Contractor has submitted valid claims for payment of at least 80% (eighty per cent) of the amount arrived at after reducing the lump sum price specified in Clause 26.1.1 by the amount attributable to Works which have been withdrawn. For the avoidance of doubt and by way of illustration, the Parties agree that if the Contract Price specified in Clause 26.1.1 is Rs. 105 cr. (Rs. one hundred and five crore) and the Works withdrawn have a value of Rs. 5 cr. (Rs. five crores), a Substantial Completion Certificate shall not be issued until valid claims for payment of an amount of Rs. 80 cr. (Rs. Eighty crores) have been submitted by the Contractor in accordance with the provisions of this Agreement. It is further agreed that all price adjustments made in pursuance of Clause 26.10 shall not be reckoned for computation of the claims for payments referred to in this Clause 19.2.5.

19.3 Completion of remaining Works

All items in the Punch List shall be completed by the Contractor in accordance with the provisions of this Agreement. For any delay in their completion other than for reasons solely attributable to the Employer or due to Force Majeure, the Employer shall be entitled to recover Damages from the Contractor in accordance with the provisions of Clause 17.3.2 of this Agreement.

19.4 Completion Certificate for Construction Works



19.4.1 Upon completion of all Construction Works, including the items specified in the Punch List, and the Employer's Engineer determining the Tests to be successful, it shall forthwith issue to the Contractor and the Employer a certificate substantially in the form set forth in Schedule-G (the "Completion Certificate for Construction works").

19.5 Project Completion cum Taking Over Certificate

19.5.1 Upon completion of all Works as per the scope of this tender including the Defect Liability period, the Employer shall forthwith issue to the Contractor, "Project Completion cum Taking Over Certificate."

19.5.2 Upon receiving the Project Completion cum Taking Over Certificate, the Contractor shall remove its equipment, Materials, debris and temporary Works from the Site within a period of 30 (thirty) days thereof, failing which the Employer may remove or cause to be removed, such equipment, Materials, debris and temporary Works and recover from the Contractor an amount equal to 120% (one hundred and twenty per cent) of the actual cost of removal incurred by the Employer.

19.5.3 Without prejudice to the obligations of the Contractor specified in Sections 21 and 24, the property and ownership of all the completed Works forming part of the Project Works shall vest in the Employer.

19.6 Rescheduling of Tests

If the Employer's Engineer certifies to the Employer and the Contractor that it is unable to issue the Substantial Completion Certificate, as the case may be, because of events or circumstances on account of which the Tests could not be held or had to be suspended, the Contractor shall be entitled to re-schedule the Tests and hold the same as soon as reasonably practicable.

20 Change of Scope

20.1 Change of Scope

The Employer may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications/alterations to the Works (“Change of Scope”) before the issue of the Completion Certificate for Construction works either by giving instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Section.

20.1.1 Change of Scope shall mean:

- a) change in specifications of any item of Work;
- b) omission of any work from the Scope of the Project provided that, subject to Clause 20.5, the Employer shall not omit any work under this Clause in order to get it executed by any other Contractor/ Employer; and/or
- c) any additional work, Plant, Materials, or services which are not included in the Scope of the Project

20.1.2 If the Contractor determines at any time that a Change of Scope will if adopted,

- a) accelerate completion,
- b) reduce the cost to the Employer of executing, maintaining, or operating the Project Works,
- c) improve the efficiency or value to the Employer of the completed Project Works, or
- d) otherwise, be of benefit to the Employer, it shall prepare a proposal with relevant details at its own cost.

The Contractor shall submit such proposal, supported with the relevant details and the amount of reduction in the Contract Price to the Employer to consider such Change of Scope. The Employer shall, within 15 (fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any and initiate proceedings therefor in accordance with this Section or reject the proposal and inform the Contractor of its decision. For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without the express consent of the Employer, save and except any Works necessary for meeting any Emergency.

20.2 Procedure for Change of Scope

20.2.1 In the event of the Employer determining that a Change of Scope is necessary, it may direct the Employer’s Engineer to issue to the Contractor a notice specifying in reasonable detail the Works and services contemplated thereunder (the “Change of Scope Notice”).

20.2.2 Upon receipt of a Change of Scope Notice, the Contractor shall, with due diligence, provide to the Employer and the Employer's Engineer such information as is necessary, together with preliminary Documentation in support of:

- a) the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the Works or services are required to be carried out during the Construction Period; and
- b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof, including the following details:
 - i. breakdown of the quantities, unit rates and cost for different items of work;
 - ii. proposed design for the Change of Scope; and
 - iii. proposed modifications, if any, to the Project Completion schedule of the Project Works.

For the avoidance of doubt, the Parties expressly agree that subject to the provisions of Clause 20.4.2, the Contract Price shall be increased or decreased, as the case may be, on account of the Change of Scope.

20.2.3 The Contractor's quotation of costs for the Change of Scope shall be determined on the following principles:

- a) the latest available edition of the Andhra Pradesh Schedule of Rates (Rates to be adopted as printed in APSR) applicable to the Nakkapalli Region will be adopted for the valuation of any Works which are not already covered by the items included in Price Schedules - C. Payments for the Variations Items shall be made in Rs. only.
- b) In the event that items are not covered in the Andhra Pradesh Schedule of rates (Rates to be adopted as printed in APSR) applicable to Nakkapalli then the latest edition of the Andhra Pradesh Water Resources rates applicable for Nakkapalli and then the Andhra Pradesh Common schedule of rates related to Nakkapalli will be used in that order.
- c) The market rates substantiated with 3 quotations, followed by a work order and/ or Tax Invoice shall be considered only when the executed variation items are not covered under the Price Schedule or the above-referred schedule of rates.

20.2.4 Upon reaching an Agreement, the Employer shall issue an order (the "Change of Scope Order") requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Employer may:

- a) issue a Change of Scope Order requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Employer till the matter is resolved in accordance with Section 33; or
- b) proceed in accordance with Clause 20.5.

20.2.5 The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply mutatis mutandis to the Works undertaken by the Contractor under this Section 20.

20.3 Payment for Change of Scope

Payment for Change of Scope shall be made in accordance with the payment schedule specified in the Change of Scope Order.

20.4 Restrictions on Change of Scope

20.4.1 No Change of Scope shall be executed unless the Employer has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.

20.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 15 (Fifteen) per cent of the Contract Price.

20.4.3 Notwithstanding anything to the contrary in this Section, no change made necessary because of any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be a Change of Scope and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

20.5 Power of the Employer to Undertake Works

20.5.1 In the event the Parties are unable to agree to the proposed Change of Scope Orders in accordance with Clause 20.2, the Employer may, after giving notice to the Contractor and considering its reply thereto, award such Works or services to any person on the basis of open competitive Bidding from amongst Bidders who are pre-qualified for undertaking the additional work; provided that the Contractor shall have the option of matching the first ranked Bid in terms of the selection criteria, subject to payment of 2% (two per cent) of the Bid amount to the Employer, and thereupon securing the award of such Works or services. For the avoidance of doubt, it is agreed that the Contractor shall be entitled to exercise such option only if it has participated in the Bidding process and its Bid does not exceed the first ranked Bid by more than 10% (ten per cent) thereof. It is also agreed that the Contractor shall provide assistance and cooperation to the person who undertakes the Works or services hereunder but shall not be responsible for the rectification of any Defects and/ or Maintenance of Works carried out by other agencies.

20.5.2 The Works undertaken in accordance with this Clause 20.5 shall conform to the Specifications and Standards and shall be carried out in a manner that minimizes the disruption in the operation of the Project Works. The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply mutatis mutandis to the Works carried out under this Clause 20.5.

21 Operation and Maintenance

The Employer shall call the bid for Operation and Maintenance (O & M) work of Bulk Drug Park subsequently, and the contract shall be awarded through a separate bidding process.

The EPC Contractor shall have the first right of refusal to take up the O & M responsibility. The EPC Contractor may express willingness to undertake the Operation and Maintenance contract within the stipulated timeframe by matching the price bid of the Lowest bidder.

The O & M Contractor shall commence Operations and Maintenance from the date of appointment by the Employer (the "Maintenance Period"). The decision of the Employer in this matter shall be final, and no claims or disputes shall arise from the selection process.

In the event if the EPC Contractor is not willing to take up Operations & Maintenance job, the EPC Contractor shall work in tandem with O & M Contractor and handhold the O & M contractor for 4 months effective (transition /trial run period) from the Date of Completion of Construction Work / Commercial Operation Date

The EPC Contractor shall train the team of O & M contractor on the process/ess to be followed for O & M and provide O & M Manual along with as-built Drawings, Specification sheets, Scheduled Operating Procedures, Guarantees, Warranties along with Do's & Don'ts to avoid damage/s to the Plant equipment and machinery.

The EPC contractor shall ensure smooth transition to the O & M contractor and shall take signoff from the employer at the end of transition / trial run period or till such time the performance tests are completed as per the designed output for plant and machinery and resolve all the teething issues.

21.1 Obligations of the Contractor

21.1.1 Deleted

21.1.2 In respect of any Defect or deficiency not related to Maintenance Requirements, the Contractor shall, at its own cost, undertake repair or rectification in accordance with Good Industry Practice, save and except to the extent that such Defect or deficiency shall have arisen on account of any default or neglect of the Employer or a Force Majeure Event.

21.2 Deleted

21.3 Deleted

21.4 Safety, vehicle breakdowns and accidents

21.4.1 The Contractor shall ensure safe conditions for the Users, and in the event of unsafe conditions, lane closures, diversions, vehicle breakdowns and accidents, it shall follow the relevant operating

procedures for removal of obstruction and debris without delay. Such procedures shall conform to the provisions of this Agreement, Applicable Laws, Applicable Permits and Good Industry Practice.

21.4.2 The Contractor shall promptly remove any damaged vehicles and debris from the Project Road to enable safe movement of traffic and shall report all accidents to the police forthwith.

21.5 Lane closure/Utility line closure

21.5.1 The Contractor shall not close any lane of the Project Road/ Utility line for undertaking Maintenance Works except with the prior written approval of the Employer's Engineer. Such approval shall be sought by the Contractor through a written request to be made at least 10 (ten) days before the proposed closure of the lane and shall be accompanied by particulars thereof. Within 5 (five) business days of receiving such request, the Employer's Engineer shall grant permission with such modifications as it may deem necessary, and a copy of such permission shall be sent to the Employer and local concerned authorities.

21.5.2 Upon receiving the permission pursuant to Clause 21.5.1, the Contractor shall be entitled to close the designated lane for the period specified therein, and in the event of any delay in re-opening such lane, the Contractor shall, for every stretch of 250 (two hundred and fifty) meters, or part thereof, pay Damages to the Employer calculated at the rate of 0.1% (zero point one per cent) of the Quarterly Maintenance payment for each day of delay until the lane has been re-opened for traffic/public use.

21.6 Reduction of Payment for Non-performance of Maintenance Obligations

21.6.1 Deleted.

21.7 Employer's Right to take Remedial Measures

Deleted

21.8 Restoration of Loss or Damage to Project Works

Deleted

21.9 Overriding powers of the Employer

21.9.1 Deleted

22 Supervision and Monitoring during Defect Liability Period

22.1 Inspection by the Contractor

22.1.1 The Employer / Employer's Engineer shall undertake regular inspections to evaluate continuously the compliance with the Defect Liability Requirements.

22.1.2 The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system in accordance with the guidelines contained in IRC: SP35. the inspection report together with details of any Damages observed and proposed action to remedy the same shall be conveyed to the Employer's Engineer forthwith.

22.2 Inspection and payments

22.2.1 Deleted

22.2.2 Deleted

22.2.3 Deleted

22.3 Tests

Deleted

22.4 Reports of Unusual Occurrence

Deleted

23 Traffic Regulation

23.1 Traffic Regulation by the Contractor

- 23.1.1** The Contractor shall take all the required measures as per the traffic management plan prepared by the Contractor and approved by Employer/Local Traffic Authorities and make arrangements for the safety of Users during the Construction and Defect Liability Period of the Project Road or a Section thereof in accordance with the provisions of MORTH Specifications. It shall provide, erect and maintain all such barricades, signs, markings, flags, and lights as may be required by Good Industry Practice for the safety of the traffic passing through the Section under Construction or Maintenance.
- 23.1.2** All Works shall be carried out in a manner creating the least interference to traffic passing through the Project area or a Section thereof. In sections where Construction on the carriageway is taken up, the Contractor shall ensure that proper passage is provided for the traffic. Where it is not possible or safe to allow traffic on part width of the carriageway, a temporary diversion of proper specifications shall be constructed by the Contractor at its own cost. The Contractor shall take prior approval of the Employer's Engineer for any proposed arrangement for traffic regulation during Construction and Maintenance, which approval shall not be unreasonably withheld.

24 Defects Liability

24.1 Defects Liability Period

24.1.1 The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Project Works or any Section thereof, till the expiry of a period of 1 (one) year commencing from the date of issue of Completion Certificate for Construction works (the “Defects Liability Period”). For the avoidance of doubt, any repairs or restoration on account of usual wear or tear in the Project Works or any Section thereof shall form a part of the Maintenance obligations of the Contractor as specified in Section 21.

24.2 Remediating Defects

Save and except as provided in Clause 24.1.1, the Contractor shall repair or rectify or replace all Defects and deficiencies observed by the Employer’s Engineer during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by the Employer’s Engineer in this behalf, or within such reasonable period as may be determined by the Employer’s Engineer at the request of the Contractor, in accordance with Good Industry Practice.

Duty of the Contractor to comply with queries on defects in the works if any: In case if the Vigilance & Enforcement Dept. and the Anti-Corruption Bureau have taken up any investigation and notice any defects, the Contractor has to invariably follow the recommendations including to re-construct or to carry out defects and also accept recoveries for the defective work.

24.3 Cost of Remediating Defects

For the avoidance of doubt, any repair or rectification or replacement of any/all units of a project undertaken in accordance with the provisions of Clause 24.2, including any additional testing, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification and repair is attributable to:

- a) The design of the Project;
- b) Plant, Materials or Workmanship not being in accordance with this agreement and the Specifications and Standards;
- c) Improper Maintenance during Construction of the Project Works by the Contractor; and/or
- d) Failure by the Contractor to comply with any other obligation under this agreement.

24.4 Contractor’s Failure to Rectify Defects

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 24.2, the Employer shall be entitled to get the same repaired, rectified or remedied at the Contractor’s cost so as to make the Project Works conform to the Specifications and Standards

and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Employer and the Contractor, be determined by the Employer's Engineer. The cost so determined for repair or rectification or replacement of such defects plus an amount equal to twenty per cent (20%) of the above cost as Damages shall be recoverable by the Employer from the Contractor and may be deducted by the Employer from any money due to the Contractor and/or from any Bank Guarantee/Performance Guarantee.

24.5 Contractor to Search Cause

24.5.1 The Employer's Engineer may instruct the Contractor to examine the cause of any Defect in the Works or part thereof before the expiry of the Defects Liability Period.

24.5.2 In the event any Defect identified under Clause 24.5.1 is attributable to the Contractor, the Contractor shall rectify such Defect within the period specified by the Employer's Engineer and shall bear the cost of the examination and rectification of such Defect.

24.5.3 In the event such Defect is not attributable to the Contractor, the Employer's Engineer shall, after due consultation with the Employer and the Contractor, determine the costs incurred by the Contractor on such examination and notify the same to the Contractor, with a copy to the Employer, and the Contractor shall be entitled to payment of such costs by the Employer.

24.6 Extension of Defects Liability Period

The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 24.2 have been remedied.

25 Employer's Engineer

25.1 Appointment of the Employer's Engineer

25.1.1 The Employer has appointed the Project Management Consultant (PMC), a, for the said project to be the Engineer under this Agreement (the "Employer's Engineer").

25.1.2 The staff of the Employer's Engineer shall include suitably qualified engineers and other professionals who are competent to assist the Employer's Engineer to carry out its duties.

25.1.3 The Employer may delegate the representative from the Employer's Engineer after signing of the Agreement.

25.2 Duties of the Employer's Engineer

25.2.1 The Employer's Engineer shall perform the duties and exercise the authority in accordance with the provisions of its Agreement, and substantially in accordance with the terms of reference ("Terms of Reference" or "TOR") of this document, but subject to obtaining prior written approval of the Employer before determining:

- i. Any Time Extension
- ii. any additional cost to be paid by the Employer to the Contractor
- iii. the Termination Payment

25.2.2 No decision or communication of the Employer's Engineer shall be effective or valid unless it is accompanied by an attested true copy of the approval of the Employer for and in respect of any matter specified in Clause 25.2.1.

25.3 Delegation by the Employer's Engineer

25.3.1 The Employer's Engineer may, by order in writing, delegate any of his duties and responsibilities to suitably qualified and experienced personnel who are accountable to Employer's Engineer, or may revoke any such delegation, under intimation to the Employer and the Contractor. Provided, however, that the Employer's Engineer shall be responsible and liable for all actions and omissions of such personnel.

25.3.2 Any failure of the Employer's Engineer to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Employer to reject the work, Plant or Materials, which is not in accordance with the provisions of this Agreement and the Specifications and Standards.

25.3.3 Notwithstanding anything stated in Clause 25.3.1 above, the Employer's Engineer shall not delegate his Employee to refer any matter for the Employer's prior approval wherever required in accordance with the provisions of Clause 25.2.

25.4 Instructions of the Employer's Engineer



- 25.4.1** The Employer's Engineer may issue to the Contractor instructions for remedying any Defect. The Contractor shall take such instructions from the Employer's Engineer, or from personnel to whom appropriate Authority has been delegated under Clause 25.3.
- 25.4.2** The instructions issued by the Employer's Engineer shall be in writing (email communication needs to be followed by a formal letter). However, if the Employer's Engineer issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 2 (two) business days of issuing them.
- 25.4.3** In case the Contractor does not receive the confirmation of the oral instruction within the time specified in Clause 25.4.2, the Contractor shall seek the written confirmation of the oral instructions from the Employer's Engineer. The Contractor shall obtain an acknowledgement from the Employer's Engineer of the communication seeking written confirmation. In case of failure of the Employer's Engineer or its delegated personnel to reply to the Contractor within 2 (two) business days of the receipt of the communication from the Contractor, the Contractor may not carry out the instruction.
- 25.4.4** In case of any Dispute on any of the instructions issued by the delegated personnel, the Contractor may refer the Dispute to the Employer's Engineer, who shall then confirm, reverse or vary the instructions within [3 (three)] business days of the Dispute being referred.

25.5 Determination by the Employer's Engineer

- 25.5.1** The Employer's Engineer shall consult with each Party in an endeavour to reach an agreement wherever this Agreement provides for the determination of any matter by the Employer's Engineer. If such Agreement is not achieved, the Employer's Engineer shall make a fair determination in accordance with this Agreement having due regard to all relevant circumstances. The Employer's Engineer shall give notice to both the Parties of each Agreement or determination, with supporting particulars.
- 25.5.2** Each Party shall give effect to each Agreement or determination made by the Employer's Engineer in accordance with the provisions of this Agreement. Provided, however, that if any Party Disputes any instruction, decision, direction or determination of the Employer's Engineer, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure.

25.6 Remuneration of the Employer's Engineer

The remuneration, cost and expenses of the Employer's Engineer shall be paid by the Employer.

25.7 Termination of the Employer's Engineer

The Employer may, in its discretion, replace the Employer's Engineer at any time during the tenure of the contract, if in the opinion of the Employer, the Employer's Engineer had acted in contrary to the Terms of Reference of the Employer's Engineer Contract, after due diligence, but only after appointment of another Employer's Engineer in accordance with Clause 25.1.



Part D: EPC Agreement
Section D-Financial Covenants

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26 Payments

26.1 Contract Price

26.1.1 The Employer shall make payments to the Contractor for the Works on the basis of the lump sum price accepted by the Employer in consideration of the obligations specified in this Agreement for an amount of Rs.....(Rupees) (the “Contract Price”), which shall be subject to adjustments in accordance with the provisions of this Agreement. For the avoidance of doubt, the Parties expressly agree that the Contract Price shall not include the cost of Maintenance. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until the issue of the Completion Certificate for Construction works.

26.1.2 The Contract Price includes all applicable taxes (**but excluding Seinorage charges & GST**) and Duties, royalty and fees, etc. as applicable **excluding NAC@0.1%** that may be levied in accordance with the laws and regulations in force as on the Base Date under this Agreement. The Corpus Fund towards NAC@0.1% will be deducted while making payments to the Contractor and reimbursement will be made to the Contractor accordingly. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.

GST (Goods and Services Tax) would be payable at the applicable rates as may be in force from time to time.

26.1.3 Procedure for Royalty payments, in case the same is not paid directly by the Contractor.

- a) A copy of the agreement shall be forwarded to the Revenue officer with the intimation that the royalty for minor mineral/excavation involved in the work such as murrum, sand, metal, rubble etc. will be deducted from each IPC of the Contractor will be remitted by Employer directly with them, if the same is not paid directly by the Contractor to Revenue authorities.
- b) For working out the amount of royalty to be recovered, a consumption statement of minor minerals such as metal, rubble, sand etc. shall be prepared by the Contractor for the items where minor minerals are used for the work. No bulkage shall be considered while arriving quantities and the amount of royalty for each minor mineral shall be worked out as per prevailing rate. However, the amount so recovered shall be certified by the Revenue Authorities before the finalization of the bill to implement exact recovery.
- c) As regards items such as cement concrete pipe, ready-mix concrete, precast concrete material, premix asphalt brought from the plant, all types of tiles etc., consumption of minor minerals need not be worked out and royalty for the same shall not be recovered and paid to Revenue Department.
- d) If the Contractor submits that he has already paid the royalty to Revenue Department even in

such cases the royalty charges shall have to be recovered from the bills of the Contractor and shall be kept in deposit for confirmation from Revenue Authority. The amount in the deposit shall be released only after getting confirmation from the Revenue Authorities. In such cases, Employer's Engineer shall forward the receipts of payment of Royalty charges produced by the Contractor to the Revenue Authorities and obtain their confirmation. Till such time, the Royalty charges shall be recovered and kept in deposit.

26.1.4 The Contract Price shall not be adjusted for any change in costs stated in Clause 26.1.1 above, except as stated in Clause 26.1.2, 26.10 and 26.17 respectively.

26.1.5 The Contract Price shall not be adjusted to take account of any Force Majeure unless otherwise provided for in this Agreement.

26.1.6 Unless otherwise stated in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction and the remedying of any Defects in the Project Works.

26.1.7 All payments under this Agreement shall be made in Indian Rupees.

26.2 Deleted

26.3 Procedure for Estimating the Payment for the Works

26.3.1 The Employer shall make interim payments to the Contractor as certified by the Employer's Engineer on completion of a stage, in a length, number or area as specified and valued in accordance with the proportion of the Contract Price assigned to each item and its stage in Schedule-C.

26.3.2 The Contractor shall base its claim for interim payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with Clause 26.3.1, supported with necessary particulars and documents in accordance with this Agreement.

26.3.3 Any reduction in the Contract Price arising out of Change of Scope or the Works withdrawn shall not affect the amounts payable for the items or stage payments thereof which are not affected by such Change of Scope or withdrawal. For the avoidance of doubt and by way of illustration, the Parties agree that if the amount assigned to Bridges has reduced from Rs.100 crore to Rs. 80 crores owing to a Change of Scope or withdrawal of work, the reduction in payment shall be restricted to relevant payments for Bridges only and the payment due in respect of all other stage payments under the item Bridges shall not be affected in any manner. The Parties further agree that the adjustments arising out of the aforesaid modifications shall be carried out in a manner that the impact of such modifications is restricted to the said Change of Scope or withdrawal, as the case may be, and does not alter the payments due for and in respect of items or stage payments which do not form part of such Change of Scope or withdrawal.

26.4 Stage Payment Statement for Works

26.4.1 The Contractor shall submit a statement (the “Stage Payment Statement”), in 3 copies, by the 7th (seventh) day of the month to the Employer’s Engineer in the form set forth in Schedule-J, showing the amount calculated in accordance with Clause 26.3 to which the Contractor considers himself entitled for completed stage(s) of the Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work.

26.5 Stage Payment for Works

26.5.1 Upon receipt of the Stage Payment Statement referred to in Clause 26.4, the Employer’s Engineer shall determine and shall deliver to the Employer and the Contractor an Interim Payment Certificate (IPC) certifying the amount due and payable to the Contractor, after adjusting the payments already released, if any to the Contractor. The Employer shall pay the Contractor, the approved/certified sum against the said IPC.

26.5.2 In cases where there is a difference of opinion as to the value of any stage, the Employer’s Engineer’s view shall prevail, and interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor’s right to raise a Dispute.

26.5.3 The Employer’s Engineer may, for reasons to be recorded, withhold from payment:

- a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and the Employer’s Engineer had notified the Contractor; and
- b) the estimated cost of rectification of work done is not in accordance with this Agreement.

26.5.4 Payment by the Employer shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction with the work done.

26.6 Maintenance Statement of the Project Works

26.6.1 Deleted.

26.6.2 Deleted.

26.7 Payment for Operation and Maintenance of the Project Works

26.7.1 Deleted:

26.7.2 Deleted.

26.7.3 Deleted.

26.7.4 Deleted.

26.7.5 Deleted.

26.7.6 Deleted.

26.8 Payment of Damages

26.8.1 The Contractor may claim Damages due and payable to it in accordance with the provisions of this Agreement.

26.8.2 The Employer's Engineer shall issue the IPC within 15 (fifteen) days of the receipt of the claim under Clause 26.8.1, after making adjustments in accordance with the provisions of this Agreement. The Employer shall pay to the Contractor the amount due under any IPC within a period of 30 (thirty) days from the date of the submission of the claim under this Clause.

26.8.3 In the event of the failure of the Employer to make payment to the Contractor within the specified time, the Employer shall be liable to pay to the Contractor interest thereon and the provisions of Clause 26.9 shall apply mutatis mutandis thereto.

26.9 Time of Payment and Interest

26.9.1 The Employer shall pay to the Contractor any amount due under any payment certificate issued by the Employer's Engineer in accordance with the provisions of this Section 26, or in accordance with any other clause of this Agreement as follows:

26.9.2 payment shall be made no later than 30 (thirty) days from the date of submission of the Stage Payment Statement by the Contractor as approved by the Employer's Engineer for certification in accordance with the provisions of Clause 26.4 for an IPC; provided that, in the event the IPC is not issued by the Employer's Engineer within the period of 90 (ninety) days, the Employer shall pay the amount shown in the Contractor's Stage Payment Statement and any discrepancy therein shall be added to, or deducted from, the next payment certificate issued to the Contractor; and

- a) payment shall be made no later than 90 (ninety) days from the date of submission of the Final Approved Payment Certificate for Works along with the discharge submitted to the Employer's Engineer in accordance with the provisions of Clause 26.11 to Clause 26.16 for certification.

26.9.3 In the event of the failure of the Employer to make payment to the Contractor within the period stated in this Clause 26.9, the Employer shall be liable to pay to the Contractor interest at 6% simple interest per annum from the 31st day from the date of submission of approved stage payment statement submitted by the Contractor to the Employer's engineer & its in turn certification as per para Clause 26.3 & 26.4 calculated at quarterly rests, on all sums remaining unpaid from the date on which the same should have been paid, calculated in accordance with the provisions of Clause 26.9.1 (a) and (b) and till the date of actual payment. No doubt where any extension of time was taken by the Contractor for the delayed payment of bills due, he is not entitled to interest on delayed payments.

26.10 Price Adjustment for the Project Works

- 26.10.1** The amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.
- 26.10.2** The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for the currencies in which the Contract Price is payable.
- 26.10.3** The Contract Price shall be adjusted for increases or decrease in rates and price of labour, steel, bitumen, fuel, and other material as well as electrical works in accordance with the principles, procedures and formulae specified below. As per G.O. Ms. No. 22, dated 13.04.2020, Industries & Commerce (P&I) department, GoAP, cement shall be made available at a fixed rate for the projects executed by GoAP. Therefore, no adjustment is applicable in the contract price for increase or decrease in rates towards the cement component.
- 26.10.4** The price adjustments for the works shall also be applicable during the approved Extension of time for the construction.
- 26.10.5** The following expressions and meanings are assigned to the value of the work done:

a) Electrical Works:

Unless otherwise specified, the Price of supply of electrical equipment specified under price schedule C for the respective Electrical Scope of Work shall be subject to adjustment as per the formulae of the Indian Electrical & Electrical Manufacturers Association (IEEMA). For the items of facilities for which IEEMA formulae do not exist, the formulae given for other Materials below in 26.10.5 (b) shall be applicable for the purpose of calculation of the price adjustment.

b) All other works (Other than Electrical works)

Price adjustment for changes in cost (other than Electrical works) shall be paid in accordance with the following formulae:

$$VR = 0.85 R \times [PL \times (LI - LO)/LO + PC \times (CI - CO)/CO + PS \times (SI - SO)/SO + PB \times (BI - BO)/BO + PF \times (FI - FO)/FO + PA \times (AI - AO)/AO + PM \times (MI - MO)/MO]$$

Where

R = Value of work done during the month under consideration for Price Adjustment

VR = Increase or decrease in the cost during the period under consideration due to changes in the rates for relevant components as stated in subparagraph (c)

PL, PC, PS, PB, PF, PA and PM are the percentages of Labour, Cement, Steel, Bitumen, Fuel, Percentage of Plant & Machinery and spares component & other materials respectively for the

relevant item as stated in subparagraph(c).

LO = The consumer price index for industrial workers for the [circle Visakhapatnam in the State of Andhra Pradesh], published by the Labour Bureau, Ministry of Labour, Government of India, (hereinafter called "CPI") for the month of the Base Date.

LI = The CPI for the month under consideration to which the IPC relates.

CO = The WPI for gray cement for the month of the Base Date. (Inoperative – as no escalation is payable towards cement component)

CI = The WPI for gray cement for the month under consideration for which the IPC relates. (Inoperative – as no is escalation payable towards cement component)

SO = The WPI for Mild Steel (Long Products) for the month of the Base Date.

SI = The WPI for Mild Steel (Long Products) for the month under consideration to which the IPC relates to.

BO = The WPI for Bitumen for the month of the Base Date.

BI = The WPI for Bitumen for the month under consideration to which the IPC relates to.

FO = The WPI for Fuel and Power for the month of the base Date.

FI = The WPI for Fuel and Power for the month under consideration for which the IPC relates to.

AO = WPI for manufacture of machinery and equipment for the month of the Base Date.

AI = The WPI for manufacture of machinery and equipment for the month under consideration to which the IPC relates to.

MO = The WPI for all commodities for the month of the Base Date.

MI = The WPI for all commodities for the month under consideration to which the IPC relates to.

a) The following percentages shall govern the price adjustment of the Contract Price:

Table of adjustment data (Other Than Electrical works)

S. No.	Particulars	%
1.	Labor PL	15%
2.	Cement PC	15%
3.	Steel PS	10%
4.	Bitumen PB	15%
5.	Fuel PF	10%
6.	Manufacture of Machinery and Equipment PA	20%
7.	Other Materials PM	15%
Total		100%

26.11 Discharge

26.11.1 Upon submission of the Final Payment Statement for Works under Clause 26.13, the Contractor shall give to the Employer, with a copy to the Employer's Engineer, a written discharge confirming that the total of the Final Payment Statement represents the full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect. Provided that such discharge shall become effective only after the payment due has been made in accordance with the Final Payment Certificate issued pursuant to Clause 26.15.

26.11.2 Final Payment Certificate

26.11.3 Within 30 (thirty) days after receipt of the Final Payment Statement for Works under Clause 26.13, and the written discharge under Clause 26.14, and there being no Disputed items of claim, the Employer's Engineer shall deliver to the Employer, with a copy to the Contractor, a final payment certificate (the "Final Payment Certificate") stating the amount which, in the opinion of the Employer's Engineer, is finally due under this Agreement or otherwise. For the avoidance of doubt, before issuing the Final Payment Certificate, the Employer's Engineer shall ascertain from the Employer all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance, if any, due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.

26.11.4 The Employer shall, in accordance with the provisions of Clause 26.9, pay to the Contractor the amount which is stated as being finally due in the Final Payment Certificate.

26.12 Final payment statement for Maintenance

26.12.1 Within 30 (thirty) days after completion of the Maintenance Period, the Contractor shall submit to the Employer's Engineer six copies of the final payment statement for Maintenance of the Project Works, with supporting documents showing the details set forth below in the form prescribed by the Employer's Engineer

- a) the total amount claimed in accordance with the Quarterly statement for Maintenance of

Projects Works;

- b) the amount paid in accordance with the Interim Payment Certificates; and
- c) any sums which the Contractor considers to be due to it, with supporting documents.

26.12.2 The Employer's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance subject to Clause 26.16, segregating the items of amount payable from the items of amount disallowed. The Employer shall make payment on the basis of the final payment authorized by the Employer's Engineer within a period of 30 (thirty) days of the receipt of the Final Payment Statement from the Employer's Engineer.

26.12.3 If the Employer's Engineer does not prescribe the form within 15 (fifteen) days of the date of issue of the Completion cum Taking Over Certificate, the Contractor shall submit the statement in such form as it deems fit.

26.13 Change in Laws

Statutory changes in the form of GOs released which have direct impact on the Project Cost.

26.13.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (fifteen) days from the date it becomes reasonably aware of such addition in cost, notify the Employer with a copy to the Employer's Engineer of such additional cost due to Change in Law.

26.13.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (fifteen) days from the date it becomes reasonably aware of such reduction in cost, notify the other Party with a copy to the Employer's Engineer of such reduction in cost due to Change in Law.

26.13.3 The Employer's Engineer shall, within 15 (fifteen) days from the date of receipt of the notice from the Contractor or the Employer, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law and the Employer shall pay or recover accordingly.

26.14 Correction of Interim Payment Certificates

26.14.1 The Employer's Engineer may by an Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate issued by the Employer's Engineer.

26.15 Employer's claims

If the Employer considers itself to be entitled to any payment from the Contractor under any Clause of this Agreement, it shall give notice and particulars to the Contractor 15 (fifteen) days before

making the recovery from any amount due to the Contractor and shall take into consideration the representation, if any, made by the Contractor in this behalf, before making such recovery.

For any claims made by anybody under this contract involving the Employer also, the Employer is entitled to retain and withhold out of payments made to the Contractor the amounts equal to the claims with interest, costs and incidental expenses till finalisation of the claim with payment for full settlement if any made by the Contractor. While finalizing the account, it is also to verify any input subsidy on tax benefit availability to the Employer to deduct.

26.16 Bonus for early completion

In the event that the Project Completion Date occurs prior to the Scheduled Completion Date, the Contractor shall be entitled to receive a payment of bonus equivalent to 0.2 % (Zero point Two per cent) of the total Contract Price calculated on a monthly basis by which the Project Completion Date precedes the Scheduled Completion Date, but subject to a maximum of 3% (Three per cent) of the Contract Price.

Provided, however, that the payment of bonus, if any, shall be made only after the issue of the Project Completion cum Taking Over Certificate. For the avoidance of doubt, the Parties agree that for the purpose of determining the bonus payable hereunder, the Contract Price shall always be deemed to be the amount specified in Clause 26.1.1, and shall exclude any revision thereof for any reason. The Parties also agree that bonus shall be payable only if each work for which Extension of Time has been granted is completed within respective Extended Time.

27 Insurance

27.1 Insurance for Works

- 27.1.1** The Contractor shall affect and maintain at its own cost the insurances specified in Schedule-K and as per the requirements under the Applicable Laws.
- 27.1.2** Subject to the provisions of Clause 28.6, the Employer and the Contractor shall, in accordance with its obligations as provided for in this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Section or cannot be recovered from the insurers.
- 27.1.3** Subject to the exceptions specified in Clause 27.1.5 below, the Contractor shall save and except as provided for in this Agreement, fully indemnify, hold harmless and defend the Employer from and against any and all losses, Damages, costs, charges and/or claims with respect to:
- a) the death of or injury to any person; or
 - b) the loss of or damage to any property (other than the Works);
- 27.1.4** That may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any defects therein.
- 27.1.5** Notwithstanding anything stated above in Clause 27.1.3, the Employer shall fully indemnify the Contractor from and against any and all losses, Damages, costs, charges, proceedings and/or claims arising out of or with respect to
- a) the use or occupation of land or any part thereof by the Employer;
 - b) the right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land;
 - c) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and
 - d) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, its agents, servants or other Contractors, not being employed by the Contractor Provided that, in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Employer shall be liable to indemnify the Contractor from and against any and all losses, Damages, costs, charges, proceedings and/or claims to the extent as may be proportionately determined to be the liability of the Employer, its servants or agents or other Contractors not associated with the Contractor in such injury or damage.

27.1.6 Without prejudice to the obligations of the Parties as specified under Clauses 27.1.3 and 27.1.5, the Contractor shall maintain or effect such third-party insurance as may be required under the Applicable Laws.

27.1.7 The Contractor shall provide to the Employer, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by its Design Manager and/or consultants to cover the risk of professional negligence in the design of Works. The professional liability coverage shall be for a sum of not less than 3% (three per cent) of the Contract Price and shall be maintained until the end of the Defects Liability Period. The Employer's Engineer will not issue a Project Completioncum Taking Over Certificate until the Contractor has produced evidence that coverage of the professional indemnity insurance has been provided for the aforesaid period.

27.2 Notice to the Employer

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Employer, in reasonable detail, information in respect of the insurance that it proposes to effect and maintain in accordance with this Section. Within 10 (ten) days of receipt of such notice, the Employer may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

27.3 Evidence of Insurance Cover

27.3.1 All insurance obtained by the Contractor in accordance with this Section shall be maintained with insurers on terms consistent with Good Industry Practice. Within 30 (thirty) days from the Appointed Date, the Contractor shall furnish to the Employer notarized true copies of the certificate(s) of insurance, copies of insurance policies and premium payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Contractor to the Employer. The Contractor shall act in accordance with the directions of the Employer. Provided that the Contractor shall produce to the Employer the insurance policies in force and the receipts for payment of the current premium.

27.3.2 The Contractor shall ensure the adequacy of the insurance at all times in accordance with the provisions of this Agreement.

27.4 Remedy for Failure to Insure

If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Employer shall have the option to either keep in force any such insurances and pay such premium and recover the costs thereof from the Contractor, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Contractor.

27.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Section shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the Employer, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

27.6 Contractor's Waiver

The Contractor hereby further releases assigns and waives any and all rights of subrogation or recovery against, inter alia, the Employer and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

27.7 Cross Liabilities

Any such insurance maintained or effected in pursuance of this Section shall include a cross-liability clause such that the insurance shall apply to the Contractor and to the Employer as separately insured.

27.8 Accident or Injury to Workmen

Notwithstanding anything stated in this Agreement, it is hereby expressly agreed between the Parties that the Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or Sub-Contractor, save and except as for death or injury resulting from any act, omission or default of the Employer, its agents or servants. The Contractor shall indemnify and keep indemnified the Employer from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Employer shall be liable.

27.8.1 Insurance Against Accidents to Workmen

The Contractor shall affect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Project Site from and against any liability incurred in pursuance of this Section. Provided that for the purposes of this Clause 27.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-Contractor and its personnel. It is further provided that, in respect of any persons employed by

any Sub-Contractor, the Contractor's obligations to insure as aforesaid under this Clause 27.9 shall be discharged if the Sub- Contractor shall have insured against any liability in respect of such persons in such manner that the Employer is indemnified under the policy. The Contractor shall require such Sub-Contractor to produce before the Employer when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Employer.

27.8.2 Application of Insurance Proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project Works and the provisions of this Agreement in respect of Construction of Works shall apply mutatis mutandis to the Works undertaken out of the proceeds of insurance.

27.9 Compliance with Policy Conditions

Each Party hereby expressly agrees to fully indemnify the other Party from and against all losses and claims arising from its failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.

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Part D: EPC Agreement
Section E-Force Majeure and Termination



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28 Force Majeure

28.1 Force Majeure

As used in this Agreement, the expression “Force Majeure” or “Force Majeure Event” shall mean the occurrence in India of any or all of Non- Political Event, Indirect Political Events and Political Events, as defined in Clauses 28.2, 28.3 and 28.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the “Affected Party”) of its obligations under this Agreement and which act or event (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by the exercise of due diligence and following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

28.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- a) act of God, pandemic/epidemic, Lockdown, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionizing radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- b) strikes or boycotts (other than those involving the Contractor, Sub-Contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project Works for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 28.3;
- c) any failure or delay of a Sub-Contractor but only to the extent caused by another Non-Political Event;
- d) any judgment or order of any court of competent jurisdiction or statutory Employer made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Employer;
- e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a Site inspection;
or

28.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- a) an act of war (whether declared or undeclared), invasion, armed conflict or act of a foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or

politically motivated sabotage;

- b) industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (ten) days in an Accounting Year;
- c) any civil commotion, boycott or political agitation which prevents the Construction of the Project Works by the Contractor for an aggregate period exceeding 10 (ten) days in an Accounting Year;
- d) any failure or delay of a Sub-Contractor to the extent caused by any Indirect Political Event.

28.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any GovernmentInstrumentality:

- a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 26.14;
- b) compulsory acquisition in the national interest or expropriation of any Project Assets or rights of the Contractor or of the Sub- Contractors;
- c) unlawful or unauthorized or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, license, permit, authorization, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-Contractors to perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub- Contractor's inability or failure to comply with any condition relating to grant, Maintenance or renewal of such clearance, license, authorization, no objectioncertificate, exemption, consent, approval or permit;
- d) any failure or delay of a Sub-Contractor but only to the extent caused by another Political Event;

28.5 Duty to report Force Majeure Event

28.5.1 Upon the occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- a) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under thisSection 28 with evidence in support thereof;
- b) the estimated duration and the effect or probable effect which such Force Majeure Event is having or willhave on the Affected Party's performance of its obligations under this Agreement;
- c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
- d) any other information relevant to the Affected Party's claim.

28.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable Material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

28.5.3 For so long as the Affected Party continues to claim to be materially affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 28.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

28.6 Effect of Force Majeure Event on the Agreement

28.6.1 Upon the occurrence of any Force Majeure after the Appointed Date, the costs incurred and attributable to such event and relating to this Agreement (the "Force Majeure costs") shall be allocated and paid as follows:

- a) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
- b) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, onehalf of such excess amount shall be reimbursed by the Employer to the Contractor for the Force Majeure events; and
- c) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Employer to the Contractor.
- d) For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the Contractor.

28.6.2 Save and except as expressly provided in this Section 28, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of the occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.

28.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion Schedule for and in respect of the affected Works shall be extended on a day-for-day basis for such period as the performance of the Contractor's obligations is affected on account of the Force Majeure Event or its subsisting effects.

28.7 Termination Notice for Force Majeure Event



If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may at its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Section 28, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days' time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

28.8 Termination Payment for Force Majeure Event

28.8.1 In the event of this Agreement being terminated on account of a Non-Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause 30.5. Provided that in the event Termination occurs during the Maintenance Period, the Employer's Engineer shall only determine the value of Works associated with Maintenance.

28.8.2 If Termination is on account of a Political Event, the Employer shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 30.6.2 as if it were an Employer Default.

28.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

28.10 Excuse from the performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

- a) the Suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- c) when the Affected Party can resume the performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume the performance of its obligations hereunder.

29 Suspension of Contractor's Rights

29.1 Suspension upon Contractor Default

Upon the occurrence of a Contractor Default, the Employer shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (i) suspend carrying out of the Works or any part thereof, and (ii) carry out such Works itself or authorize any other person to exercise or perform the same on its behalf during such Suspension (the "Suspension"). Suspension hereunder shall be effective forthwith upon issue of notice by the Employer to the Contractor and may extend up to a period not exceeding 90 (ninety) days from the date of issue of such notice.

29.2 Employer to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest therein and all things done or actions taken, including expenditure incurred by the Employer for discharging the obligations of the Contractor under and in accordance with this Agreement, shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Employer for all costs incurred during such period. The Contractor hereby licenses and sub-licenses respectively, the Employer or any other person authorized by it under Clause 29.1 to use during Suspension, all Intellectual Property belonging to or licensed to the Contractor with respect to the Project Works and its design, engineering, Construction and Maintenance, and which is used or created by the Contractor in performing its obligations under the Agreement.

29.3 Revocation of Suspension

29.3.1 In the event that the Employer shall have rectified or removed the cause of Suspension within a period not exceeding 60 (sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Employer may, at its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

29.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (sixty) days from the date of Suspension, the Employer shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

29.4 Termination

29.4.1 At any time during the period of Suspension under this Section, the Contractor may by notice require the Employer to revoke the Suspension and issue a Termination Notice. The Employer shall, within 15 (fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Section 30.

29.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (ninety) days from the date of Suspension hereunder, the Agreement shall, upon expiry of the aforesaid period, be deemed to have been terminated by mutual Agreement of the Parties and all the provisions of this Agreement shall apply, mutatis mutandis, to such Termination as if a Termination Notice had been issued by the Employer upon occurrence of a Contractor Default.

30 Termination

30.1 Termination for Contractor Default

30.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Contractor shall be deemed to be in default of this Agreement (the "Contractor Default"), unless the default has occurred solely as a result of any breach of this Agreement by the Employer or due to Force Majeure. The defaults referred to herein shall include:

- a) the Contractor fails to provide, extend or replenish, as the case may be, the Performance Security in accordance with this Agreement;
- b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 14.3, the Contractor fails to cure, within a Cure Period of 30 (thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;
- c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-E, subject to any Time Extension, and continues to be in default for 45 (forty-five) days;
- d) the Contractor abandons or manifests an intention to abandon the Construction or Maintenance of the Project Works without the prior written consent of the Employer;
- e) the Contractor fails to proceed with the Works in accordance with the provisions of Clause 17.1 or stops Works and/or the Maintenance for 30 (thirty) days without reflecting the same in the current Programme and such stoppage has not been authorized by the Employer's Engineer;
- f) the Project Completion Date does not occur within the period specified in Schedule-E for the Scheduled Completion Date, or any extension thereof;
- g) failure to complete the Punch List items within the periods stipulated therefore in Clause 19.2.1;
- h) the Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Employer's Engineer;
- i) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works or the Maintenance without the prior approval of the Employer;
- j) the Contractor creates any Encumbrance in breach of this Agreement;

- k) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect;
- l) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or Material part of its assets that has a Material bearing on the Project;
- m) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Employer, a Material Adverse Effect.
- n) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Contractor is ordered to be wound up by court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:
 - i. the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
 - ii. the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has credit worthiness at least as good as that of the Contractor as at the Appointed Date;
- o) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;
- p) the Contractor submits to the Employer any statement, notice or another document, in written or electronic form, which has a Material effect on the Employer's rights, obligations or interests and which is false in material particulars;
- q) the Contractor has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement; or
- r) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or the Employer.

30.1.2 Without prejudice to any other rights or remedies which the Employer may have under this Agreement, upon occurrence of a Contractor Default, the Employer shall be entitled to terminate

this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Employer shall by a notice inform the Contractor of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it receives such representation, issue the Termination Notice.

30.1.3 After the Termination of this Agreement for Contractor Default, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

30.2 Termination for Employer's Default

30.2.1 In the event that any of the defaults specified below shall have occurred, and the Employer fails to cure such default within a Cure Period of 90 (ninety) days or such longer period as has been expressly provided in this Agreement, the Employer shall be deemed to be in default of this Agreement (the "Employer Default") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include:

- a) the Employer commits a Material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor;
- b) the Employer has failed to make payment of any amount due and payable to the Contractor within the period specified in this Agreement;
- c) Deleted;
- d) the Employer repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or
- e) the Employer's Engineer fails to issue the relevant Interim Payment Certificate within 60 (sixty) days after receiving a statement and supporting documents.

30.2.2 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Employer Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Employer; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Employer of its intention to issue the Termination Notice and grant 15 (fifteen) days to the Employer to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

30.3 Termination for Employer's Convenience

After placement of the contract, there may be an unforeseen situation compelling Employer to cancel the contract. In such a case, a suitable notice has to be sent to the contractor for cancellation of the

contract, in whole or in part, for its (Employer's) convenience, inter alia, indicating the date with effect from which the termination will become effective. This is not Employer's legal right– the Contractor has to be persuaded to acquiesce. Depending on the merits of the case, the Contractor may have to be suitably compensated on mutually agreed terms for terminating the contract. If termination occurs because of Employer's convenience or a fundamental breach on his part, the Employer's Engineer will certify the value of works executed, value of any materials lying at site, reasonable cost of removal of equipment, repatriation of project staff, cost of protecting and securing the works and deducting from it: (i) pending advances; (ii) other recoveries; and (iii) taxes as due.

30.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the terms of this Section, the Contractor shall comply with and conform to the following:

- a) deliver to the Employer all Plant and Materials which shall have become the property of the Employer under this Section;
- b) deliver all relevant records, reports, Intellectual Property and other licenses pertaining to the Works, Maintenance, and other design documents and in case of Termination occurring after the Substantial Completion Certificate has been issued, the "as built" Drawings for the Works;
- c) transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws; and
- d) vacate the Site within 15 (fifteen) days.

30.5 Valuation of Unpaid Works

30.5.1 Within a period of 45 (forty-five) days after Termination under Clause 30.1, 30.2 or 30.3, as the case may be, has taken effect, the Employer's Engineer shall proceed in accordance with Clause 25.5 to determine as follows the valuation of unpaid Works (the "Valuation of Unpaid Works"):

- a) value of the completed stage of the Works, less payments already made;
- b) the reasonable value of the partially completed stages of Works as on the date of Termination, only if such Works conform with the Specifications and Standards; and
- c) value of Maintenance, if any, for completed months, less payments already made,
- d) and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all Taxes due to be deducted at source.

30.5.2 The Valuation of Unpaid Works shall be communicated to the Employer, with a copy to the Contractor, within a period of 30 (thirty) days from the date of Termination.

30.6 Termination Payment

30.6.1 Upon Termination on account of Contractor's Default under Clause 30.1, the Employer shall:

- a) encash and appropriate the Performance Security and Retention Money, or in the event, the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 14.1.1, as agreed pre-determined compensation to the Employer for any losses, delays and cost of completing the Works and Maintenance, if any;
- b) encash and appropriate the Bank guarantee, if any, for and in respect of the outstanding Advance Payment and interest thereon; and
- c) pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement.
- d) the Contractor may take prior written approval of the Employer before shifting the material related to the Project Works procured for the balance works by the Contractor.

30.6.2 Upon Termination on account of an Employer's Default under Clause 30.2 or for the Employer's convenience under Clause 30.3, the Employer shall:

- a) return the Performance Security and Retention Money forthwith;
- b) encash and appropriate the Bank guarantee, if any, for and in respect of the outstanding Advance Payment; and
- c) pay to the Contractor, by way of Termination Payment, an amount equal to:
 - i. Valuation of Unpaid Works;
 - ii. the reasonable cost, as determined by the Employer's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Employer for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
 - iii. the reasonable cost of temporary Works, as determined by the Employer's Engineer; and
 - iv. 10 (ten per cent) of the cost of the Works and Maintenance that are not commenced or not completed and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all Taxes due to be deducted at source.

30.6.3 Termination Payment shall become due and payable to the Contractor within 30 (thirty) days of a demand being made by the Contractor to the Employer with the necessary particulars, and in the event of any delay, the Employer shall pay to the Contractor at 6% simple Interest per annum from the 31st day from the date of submission of approved payment statement submitted by the Contractor to the Employers engineer, calculated at quarterly rests, on the amount of Termination

Payment remaining unpaid; provided that such delay shall not exceed 90 (ninety) days. For the avoidance of doubt, it is expressly agreed that Termination Payment shall constitute full discharge by the Employer of its payment obligations in respect thereof hereunder.

30.6.4 The Contractor expressly agrees that Termination Payment under this Section shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

30.7 Other Rights and Obligations of the Parties

Upon Termination for any reason whatsoever

- a) property and ownership in all Materials, Plant and Works and the Project Works shall, as between the Contractor and the Employer, vest in the Employer in whole; provided that the foregoing shall be without prejudice to Clause 30.6.
- b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Employer; and
- c) the Employer shall be entitled to restrain the Contractor and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of Materials, stores, implements, Construction plants and equipment of the Contractor, which have not been vested in the Employer in accordance with the provisions of this Agreement.

30.8 Survival of Rights

Notwithstanding anything to the contrary contained in this Agreement any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

Part D: EPC Agreement
Section F-Other Provisions

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31 Assignment and Charges

31.1 Restrictions on assignments and charges

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Employer, which consents the Employer shall be entitled to decline without assigning any reason.

31.2 Hypothecation of Materials or Plant

The Contractor cannot pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor in no case can assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person/institution/company providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. All payments shall only be made to the Contractor.

32 Liability and Indemnity

32.1 General Indemnity

The Contractor will indemnify, defend, save and hold harmless the Employer and its officers, servants, agents, Government Instrumentality and Government owned and/or controlled entities/enterprises, (the "Employer Indemnified Persons") against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Employer Indemnified Persons.

32.2 Indemnity by the Contractor

32.2.1 Without limiting the generality of Clause 32.1, the Contractor shall fully indemnify, hold harmless and defend the Employer and the Employer Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
- b) payment of Taxes required to be made by the Contractor in respect of the income or other Taxes of the Sub-Contractors, suppliers and representatives; or
- c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-Contractors which are payable by the Contractor or any of its Sub-Contractors.

32.2.2 Without limiting the generality of the provisions of this Section, the Contractor shall fully indemnify, hold harmless and defend the Employer Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Employer Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other Intellectual Property, proprietary or confidentiality rights with respect to any Materials, information, design or process used by the Contractor or by the Sub-Contractors in performing the Contractor's obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or Suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project Works, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Employer a license, at no cost to the Employer, authorizing the continued use of the

infringing work. If the Contractor is unable to secure such license within a reasonable time, the Contractor shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or a process thereof with non-infringing work or part or process or modify the same so that it becomes non- infringing.

32.3 Notice and contest of Claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Section (the “Indemnified Party”) it shall notify the other Party (the “Indemnifying Party”) within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or Dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

32.4 Defense of Claims

32.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Section, the Indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defense. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.

32.4.2 If the Indemnifying Party has exercised its rights under Clause 32.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

32.4.3 If the Indemnifying Party exercises its rights under Clause 32.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:

- a) the employment of counsel by such party has been authorized in writing by the Indemnifying

Party; or

- b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defense of such action; or
- c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defense of such action and shall have been notified by the Indemnified Party; or
- d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
 - i. that there may be specific defences available to it which are different from or additional to those available to the Indemnifying Party; or
 - ii. that such claim, action, suit or proceeding involves or could have a Material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 32.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defense of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

32.5 No Consequential Claims

Notwithstanding anything to the contrary contained in this Section, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

32.6 Survival on termination

The provisions of this Section shall survive Termination.

33 Disputes and modes of Settlement of claims/ disputes & place of exclusive jurisdiction

33.1 Dispute Resolution

33.1.1 Any Dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 33.2.

33.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

33.2 Conciliation

If any dispute or difference of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of the contract, whether during the progress of the works or after their completion and whether before or after Termination, abandonment or breach of the contract, it shall in the first place, be referred to and settled by the Chief Engineer (III), APIIC, who shall, within a period of thirty days after being requested by the Contractor to do so, after making efforts for conciliation, give in writing the result of his decision to the Contractor. Upon receipt of the decision of the Chief Engineer (III), APIIC the Contractor shall promptly proceed without delay to comply with such decision.

The Contractor shall not stop the works or fail to reach the milestones fixed from raising any such dispute.

33.3 Arbitration

33.3.1 If the Chief Engineer (III) APIIC, fails to give his decision in writing by due conciliation, within a period of thirty days after being requested or if the Contractor is dissatisfied with the decision of the Chief Engineer (III), APIIC the Contractor may within thirty days after receiving said decision or from expiry of said thirty days for decision, address the Employer in writing to refer the dispute as follows:

33.3.2 There shall be an in-house arbitration for settlement of several small claims and the Chief Engineer (III) concerned of any Department in the State of Andhra Pradesh with the projects, as the case may be who is other than the Chief Engineer (III), APIIC shall be the Arbitrator to whom the dispute to be referred by the either party within 14 days of the dispute up to the limit of Rs.10,00,000/- as sole Arbitrator. as it is a welcome feature to save time, money and manpower of both parties by providing the limit upto Rs.10,00,000/-

33.3.3 No doubt, the Government of Andhra Pradesh (while under the composite state) issued proceedings in G.O.Rt.No.116, Law (M-I) Dept., dated.30-01-2002, with finance concurrence, to refer disputes to the ICADR in government contracts for arbitration up to Rs.10.00 Lakhs. Modified proceedings to G.O.Rt. No.116 supra are yet to be issued increasing said sum, from the cost of the work components

in the present prevailing price from the estimates as per SOR is also increased many more times when compared to the past 18-20 years.

- 33.3.4** From the above, it is directed that where the claim is below Rs.10.00 Lakhs to settle by in-house arbitration supra as per the Indian Arbitration Act,1996 amended from time to time and where the claim is above Rs.10.00 Lakhs, it is up to Rs.10 Crores the dispute shall be referred to the International Centre for Alternative Dispute Resolution, Regional Centre, (ICADR), Andhra Pradesh, to nominate a sole Arbitrator from their panel by virtue of the directions.
- 33.3.5** Further, where the claim value in dispute is above Rs.10 Crores since the works contract coming for judicial preview are all above Rs.100 Crores value, it is only to invoke the jurisdiction of civil courts within the State of Andhra Pradesh by excluding jurisdiction outside the State of Andhra Pradesh.
- 33.3.6** Where the Employer wants to refer any dispute for arbitration as per the limit supra, before final settlement of the bill on completion of the contract within 1-month from the date completion of the Project works and its communication by the Contractor, may by notice in writing to the Contractor of the intention to refer any dispute to arbitration so to refer and otherwise remedy is to approach Civil Court by any of the parties subject to the law of limitation etc., as are applicable.
- 33.3.7** So far as the seat of Arbitration and place of jurisdiction for the arbitration supra is at the seat of the office of APIIC at “Mangalagiri” near ‘Amaravati’ of ‘Andhra Pradesh’ by excluding the seat of Arbitration and place of jurisdiction outside the State of Andhra Pradesh.
- 33.3.8** The language shall be in English with any translation to English from documents in the local language with due certification.
- 33.3.9** The expenses in internal arbitration shall be borne by respective parties and expenses and fees of the sole Arbitrator (external) shall be borne equally by both parties subject to a final decision on costs by the sole external Arbitrator.
- 33.3.10** The fee is as per Schedule IV of the Arbitration Act, in addition to what is payable to ICADR. The procedure shall be either as per the rules of ICADR or any other agency/service provider or as being determined by the arbitrator on such appointment from hearing of the parties, mainly by following the principles of Natural Justice and giving of Reasoned Award.

33.4 Adjudication by Regulatory Employer, Tribunal or Commission

In the event of the constitution of a statutory regulatory Employer, tribunal or commission, as the case may be, with powers to adjudicate upon Disputes between the Contractor and the Employer, all Disputes arising after such constitution shall, instead of reference to arbitration under Clause 33.3, be adjudicated upon by such regulatory authority, tribunal or commission in accordance with the Applicable Law and all references to Dispute Resolution Procedure shall be construed accordingly. For the avoidance of doubt, the Parties hereto agree that the adjudication hereunder shall not be final and binding until an appeal against such adjudication has been decided by an appellate tribunal or court of

competent jurisdiction, as the case may be, or no such appeal has been preferred within the time specified in the Applicable Law.

34 Miscellaneous

34.1 Governing Law and Jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at Amravati shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

34.2 Waiver of Immunity

Each Party unconditionally and irrevocably:

- a) agrees that the execution, delivery, and performance by it of this Agreement constitute commercial acts done and performed for commercial purposes;
- b) agrees that should any proceedings be brought against it or its assets, property, or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
- c) waives any right of immunity which it or its assets, property or revenues now have, may acquire in the future or which may be attributed to it in any jurisdiction; and
- d) consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement, or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

34.3 Delayed Payments

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 30 (thirty) days of receiving a demand along with the necessary particulars. In the event of a delay beyond such period, the defaulting Party shall pay interest for the period of delay calculated at a rate equal to 6% (Six per cent) per annum simple, calculated at quarterly rests, and recovery thereof shall be without prejudice to the rights of the Parties under this Agreement including Termination thereof. No doubt where any extension of time was taken by the Contractor for the delayed payment of bills due, he is not entitled to interest on delayed payments.

34.4 Waiver

34.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:-

- a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;

- b) shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- c) shall not affect the validity or enforceability of this Agreement in any manner.

34.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as a waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

34.5 Liability for Review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

- a) no review, comment or approval by the Employer or the Employer's Engineer of any Document or Drawing submitted by the Contractor nor any observation or inspection of the Construction, or Maintenance of the Project Works nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and
- b) the Employer shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

34.6 Exclusion of Implied Warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other Agreement between the Parties or any representation by either Party not contained in a binding legal Agreement executed by both Parties.

34.7 Survival

34.7.1 Termination shall:

- a) not relieve the Contractor or the Employer, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
- b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

34.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

34.8 Entire Agreement

This Agreement and the Schedules, corrigendum or any addendum to the Bid issued by the Employer together constitute a complete and exclusive statement of the terms of the Agreement

between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Proposals, as the case may be, shall be deemed to form part of this Agreement and treated as such.

34.9 Severability

If for any reason whatever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and then Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable, to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

34.10 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right or power to enter into any Agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

34.11 Third Parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, the standard of care with reference to, or any liability to, any person not a Party to this Agreement.

34.12 Successors and Assigns

This Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns.

34.13 Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for the attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to the Employer;

- provided that notices or other communications to be given to an address outside [Nakkapalli] may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person as the Contractor may from time to time designate by notice to the Employer;
- b) in the case of the Employer, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the [Managing Director] of the Employer with a copy delivered to the Employer Engineer or such other person as the Employer may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in [Nakkapalli] it may send such notice by facsimile or email and by registered acknowledgement due, air mail or by courier; and
 - c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or email, it shall be deemed to have been delivered on the working day following the date of its delivery.

34.14 Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in the English language.

34.15 Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

34.16 Confidentiality

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous Agreement of the Employer.

34.17 Copyright and Intellectual Property Rights

34.17.1 As between the Parties, the Contractor shall retain the copyright and other Intellectual Property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Employer a nonterminal transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of

theWorks,

- b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents to complete, operate, maintain, alter, adjust, repair and demolish the Works, and
- c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor:

34.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Clause 34.17.

34.17.3 As between the Parties, the Employer shall retain the copyright and other Intellectual Property rights in this Agreement and other documents made by (or on behalf of) the Employer. The Contractor may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the contract.

34.18 Limitation of Liability

34.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement, save and except as provided under Section 30 and 32.

34.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Section 30 and 32, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

35 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

- **“Accounting Year”** means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;
- **“Activation Area”** means the area of about 2001.80 acres of of Nakkapalli APIIC Industrial Area
- **“Advance Payment”** shall have the meaning set forth in Clause 26.2;
- **“Affected Party”** shall have the meaning set forth in Clause 28.1;
- **“Affiliate”** means, in relation to either Party {and/or Members}, a person who controls, is controlled by, or is under the common control with such Party {or Member} (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);
- **“Agreement”** means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;
- **“Applicable Laws”** means all laws, brought into force and effect by GOI or the State Government including rules, regulations and notifications made there under, and judgments, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;
- **“Applicable Permits”** means all clearances, licenses, permits, authorizations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the Construction, Operation and Maintenance of the Project Works during the subsistence of this Agreement;
- **“Appointed Date”** means the date of signing of the contract, and wherever the appointment date is mentioned in the contract shall have the same meaning.
- **“Associate”** means, in relation to the Bidder/ Consortium Member, a person who controls, is controlled by, or is under the common control with such Bidder/ Consortium Member (the “Associate”). As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law. It is clarified that a certificate from a qualified external auditor who audits the book of accounts of the Bidder shall be provided to demonstrate that a person is an Associate of the Bidder as the case may be.

- **“Arbitration Act”** means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof, as in force from time to time.
- **“Bank”** means Nationalized bank (incorporated in India and approved by RBI with a minimum net worth of Rs. 1,000 Crore);
- **“Bank Rate”** means the Repo rate of interest announced by the Reserve Bank of India for all /its lending operations on the Base Date;
- **“Base Date”** means the last date of that calendar month, which date precedes the Appointed Date by at least 28 (twenty-eight) days;
- **“Bid”** means the documents in their entirety comprised in the Bid submitted by the [selected Bidder/Joint Venture] in response to the Request for Proposals in accordance with the provisions thereof;
- **“Bid Price”** means the amount in INR (Rs) quoted by the bidder i.e. “Contract Price” as specified in Clause 21.1.1
- **“Bid Security”** means the Bid security provided by the Contractor to the Employer in accordance with the Request for Proposal, which is to remain in force until substituted by the Performance Security;
- **“Bulk Drug Park”** means the industrial park for manufacture of Bulk Drugs / Key Pharma Intermediates/ Active Pharma Ingredients / Key Starting materials etc . being developed at Nakkapalli with common infrastructure facilities necessary for the Bulk Drug Manufacturing like CETP, Common Solvent Recovery, steam generation and distribution along with other common facilities in an area of 2001.8 acres in Anakapalli district, Andhra Pradesh
- **“Change in Law”** means the occurrence of any of the following after the Base Date:
 - a) the enactment of any new Indian law;
 - b) the repeal, modification or re-enactment of any existing Indian law;
 - c) the commencement of any Indian law which has not entered into effect until the Base Date;
 - d) a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive, and binding, as compared to such interpretation or application by a court of record prior to the Base Date;
 - e) In the Estimated cost of this Project, the rates of Seigniorage fee were considered as per A.P. G.O. MS.No.11 dated 11-02-2020 issued by the Industries and Commerce (M.II) Department.
 - f) any change in the rates of any of the Taxes or royalties and fees, seigniorage charges etc. that have a direct effect on the Project;
- **“Change of Scope”** shall have the meaning set forth in Section 20;
- **“Change of Scope Notice”** shall have the meaning set forth in Clause 20.2.1;

- **“Change of Scope Order”** shall have the meaning set forth in Clause 20.2.4;
- **“Completion Certificate for Construction works”** shall have the meaning set forth in Clause 19.4;
- **“Consortium”** means the consortium of entities which have formed a joint venture for implementation of this Project ;
- **“Construction Period”** means the period commencing from the Appointed Date and ending on the date of issuance of Certificate for Commercial Operation ;
- **“Contract Price”** means the amount specified in Clause 26.1.1;
- **“Contractor”** shall have the meaning attributed thereto in the array of Parties herein above as set forth in the Recitals;
- **“Contractor Default”** shall have the meaning set forth in Clause 30.1;
- **“Cure Period”** means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:
 - a) commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
 - b) not relieve any Party from liability to pay damages or compensation under the provisions of this Agreement; and
 - c) not in any way be extended by any period of Suspension under this Agreement; provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Employer or the Employer’s Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the Employer or the Employer’s Engineer to accord their approval;
- **“Damages”** shall have the meaning set forth in paragraph (w) of Clause 8.2.1;
- **“Defect”** means any Defect or deficiency in the Construction of the Works or any part thereof, which does not conform with the Specifications and Standards, and in the case of Operation and Maintenance, means any Defect or deficiency which is specified in Schedule Q;
- **“Defects Liability Period”** shall have the meaning set forth in Clause 24.1;
- **“Dispute”** shall have the meaning set forth in Clause 33.1.1;
- **“Dispute Resolution Procedure”** means the procedure for resolution of Disputes set forth in Section 33;
- **“Drawings”** means all of the Drawings, calculations and documents pertaining to the Project Works as set forth in Schedule-D, and shall include ‘as built’ Drawings of the Project Works;
- **“Document” or “Documentation”** means Documentation in printed or written form, or in tapes, discs, Drawings, computer programmes, writings, reports, photographs, films, cassettes, or

expressed in any other written, electronic, audio, or visual form;

- **“DoP”** means Department of Pharmaceuticals, Government of India
- **“Emergency”** means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Project Works, including Users thereof, or which poses an immediate threat of Material damage to any of the Project Assets;
- **“Employer”** shall be AP Bulk Drug Infrastructure Corporation Limited;”
- **“Employer Default”** shall have the meaning set forth in Clause 30.2;
- **“Employer’s Engineer”** shall have the meaning set forth in Clause 25.1;
- **“Engineer”** wherever mentioned has the same meaning as “Employer’s Engineer.”
- **“Employer Representative”** means such person or persons as may be authorized in writing by the Employer to act on its behalf under this Agreement and shall include any person or persons having Employer to exercise any rights or perform and fulfil any obligations of the Employer under this Agreement.
- **“Encumbrances”** means, in relation to the Project Works, any encumbrances such as a mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project Works, where applicable herein but excluding utilities referred to in Clause 16.1;
- **“EPC”** means Engineering, Procurement and Construction.
- **“Final Payment Certificate”** shall have the meaning set forth in Clause 26.15;
- **“Final Payment Statement”** shall have the meaning set forth in Clause 26.13.1;
- **“Force Majeure”** or **“Force Majeure Event”** shall have the meaning ascribed to it in Clause 28.1;
- **“GAD”** or **“General Arrangement Drawings”** shall have the meaning set forth in Volume II;
- **“GOI”** or **“Government”** means the Government of India.
- **“Good Industry Practice”** means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability, and prudence which is generally and reasonably expected from a reasonably skilled and experienced Contractor engaged in the same type of undertaking as envisaged under this Agreement
- **“Government Instrumentality”** means any department, division or subdivision of the Government or the State Government and includes any commission, board, Employer, agency or municipal and other local Employer or statutory body including panchayat under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Project Works or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;

- **“IRC”** means the Indian Roads Congress;
- **“Indemnified Party”** means the Party entitled to the benefit of an indemnity pursuant to Section 32;
- **“Indemnifying Party”** means the Party obligated to indemnify the other Party pursuant to Section 32;
- **“Indirect Political Event”** shall have the meaning set forth in Clause 28.3;
- **“Insurance Cover”** means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Section 27, and includes all insurances required to be taken out by the Contractor under Clauses 27.1 and 27.9 but not actually taken, and when used in the context of any actor event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;
- **“Intellectual Property” or “IP”** means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blueprints, programmes and manuals, Drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other Intellectual Property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;
- **“Interim Payment Certificate” or “IPC”** means the interim payment certificate issued by the Employer’s Engineer for payment to the Contractor in respect of the Contractor’s claims for payment raised in accordance with the provisions of this Agreement;
- **“Legal entity”** means A legal entity is an individual or group that has legal rights and duties related to contracts, agreements, payments, transactions, obligations, penalties and suits. The term applies to any kind of organization formally constituted according to the particular set of laws governing the country.
- **“Lead Member”** shall, in the case of a Joint Venture, mean the member of such Joint Venture who shall have the Employer to bind the Contractor and each member of the Joint Venture; and shall be deemed to be the Contractor for the purposes of this Agreement;
- **“Lowest Bidder”** shall mean the Bidder who is quoting the lowest Bid price.
- **“LOA” or “Letter of Award”** means the letter of award referred to in Recital (E);
- **“Operation and Maintenance”** means the Maintenance of the Project Works as set forth in Section 21 for the period specified therein;
- **“Maintenance Inspection Report”** shall have the meaning set forth in Clause 22.2.1;
- **“Maintenance Manual”** shall have the meaning ascribed to it in Clause 17.7;
- **“Maintenance Programme”** shall have the meaning set forth in Clause 21.3;
- **“Maintenance Period”** shall have the meaning set forth in Clause 21.1.1;
- **“Maintenance Requirements”** shall have the meaning set forth in Clause 21.2;

- **“Major Bridge”** means a bridge having a total length of more than 60 (sixty) meters between the inner faces of the dirt walls as specified in IRC:5-1998;
- **“Material Adverse Effect”** means a Material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a Material financial burden or loss to either Party;
- **“Materials”** are all the supplies used by the Contractor for incorporation in the Works or for the Maintenance of the Project Works;
- **“MORTH”** means the Ministry of Road Transport and Highways or any substitute thereof dealing with Highways;
- **“Non-Political Event”** shall have the meaning set forth in Clause 28.2;
- **“Net Worth”** shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.
- **“Parties”** means the parties to this Agreement collectively and “Party” shall mean any of the parties to this Agreement individually;
- **“Performance Security”** shall have the meaning set forth in Clause 14.1;
- **“Plant”** means the apparatus and machinery intended to form or forming part of the Works;
- **“PMC”** shall have the meaning set forth in Clause 25;
- **“Political Event”** shall have the meaning set forth in Clause 28.4;
- **“Programme”** shall have the meaning set forth in Clause 17.1.3;
- **“Project”** means the Construction of the Project Works in accordance with the provisions of this Agreement, and includes all Works, services and equipment relating to or in respect of the Scope of the Project;
- **“Project Area”** means the area of about 2001.8 acres identified APIIC industrial land which falls under Rajayyapeta, Buchirajupeta, Chandanada, Vempadu and Donivani Lakshmipuram villages of Nakkapalli mandal in Anakapalli district of Andhra Pradesh.
- **“Project Assets”** means all physical and other assets relating to
 - a) tangible assets such as civil Works and equipment including foundations, embankments, pavements, road surfaces, interchanges, bridges, culverts, road over-bridges, drainage Works, traffic signals, sign boards, kilometer-stones, [toll plaza(s)], electrical systems, communication systems, rest areas, relief centers, Maintenance depots and administrative offices; and

b) Project Facilities situated on the Site;

- **“Project Completion Date”** means the date on which the Project Completion cum Taking Over Certificate is issued;
- **“Project Completion cum Taking Over Certificate”** shall have the meaning set forth in Clause 19.5.
- **“Project Completion Schedule”** means the progressive Project Milestones set forth in Schedule-E for completion of the Project Works on or before the Scheduled Completion Date;
- **“Project Facilities”** means all the amenities and facilities situated on the Site, as described in Volume II;
- **“Project Site”** shall have the meaning set forth in Clause 15.1;
- **“Project Works”** means the Site comprising of Infrastructure Facilities such Design, Construction, Testing and Commissioning for development of Bulk Drug Park at Nakkapalli (Road works including Structures & Area Landscaping, Stormwater Drain, Water distribution system, Recycle water Supply, Wastewater Conveyance Network System HTDiS and LTDiS and Treatment System, Power Supply and Distribution, Pure Water Supply (EDI+ RO Plant of 4.4 MLD Capacity), Truck Parking, Emergency Response Centre, Boundary fence, CETP with Marine Outfall System and Partly with ZLD System, Steam Generation Plant, Common Solvent Recovery System, Solid waste management, R&D Lab & Centre of Excellence, Analytical Testing Labs, Incubation Centre with Testing labs & equipments, Admin Building inclusive of all furnishings, Warehouse) on EPC basis Project and all Project Assets, and its subsequent development and augmentation in accordance with this Agreement;
- **“Project Milestone”** means the Project milestone set forth in Schedule E;
- **“Proof Consultant”** shall have the meaning set forth in Clause 17.2.2;
- **“Punch List”** shall have the meaning set forth in Clause 19.2.1;
- **“Quality Assurance Plan”** or **“QAP”** shall have the meaning set forth in Clause 18.2;
- **“Quarterly Maintenance Statement”** shall have the meaning set forth in Clause 26.6.1;
- **“Re.,” “Rs.” or “Rupees” or “Indian Rupees” or “INR” or “₹”** means the lawful currency of the Republic of India;
- **“Request for Proposals” or “RFP”** shall have the meaning set forth in Recital ‘D;’
- **“Request for Qualification” or “RFQ”** shall have the meaning set forth in Recital ‘C;’
- **“Retention Money”** shall have the meaning set forth in Clause 14.5.1;
- **“Safety Consultant”** shall have the meaning set forth in Clause 17.1.9;
- **“Scheduled Completion Date”** shall be the date set forth in Clause Schedule E;
- **“Scope of the Project”** shall have the meaning set forth in Section 9;
- **“Section”** means a part of the Project Works;

- **“Site”** shall have the meaning set forth in Clause 15.1;
- **“Specifications and Standards”** means the specifications and standards relating to the quality, quantity, capacity, and other requirements for the Project Works, as set forth in Volume II, and any modifications thereof, or additions thereto, as included in the design and engineering for the Project Works submitted by the Contractor to, and expressly approved by, the Employer;
- **"Stage Payment Statement"** shall have the meaning set forth in Clause 26.4;
- **“Structures”** means an elevated road or a flyover, as the case may be;
- **“Sub-Contractor”** means any person or persons to whom a part of the Works or the Maintenance has been subcontracted by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;
- **“Substantial Completion Certificate”** shall have the meaning set forth in Clause 19.2;
- **“Suspension”** shall have the meaning set forth in Section 29;
- **“Taxes”** means any Indian Taxes including excise duties, customs duties, value-added tax, sales tax, local Taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the Project Works charged, levied or imposed by any Government Instrumentality, but excluding GST (Goods and Services Tax), any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include Taxes on corporate income;
- **“TIA”** means the Tender Initiating Authority - The Chief Engineer (III), APIIC, representing the Governor of Andhra Pradesh for the State of Andhra Pradesh on behalf of the Special Purpose Vehicle (SIA) - AP Bulk Drug Infrastructure Corporation Limited (APBDICL).
- **“Technical Committee”** means a committee of technical experts formed or appointed by APBDIC/APIIC.
- **“Termination”** means the expiry or termination of this Agreement;
- **“Termination Notice”** means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;
- **“Termination Payment”** means the amount payable by either Party to the other upon Termination in accordance with Section 30;
- **“Terms of Reference” or “TOR”** shall have the meaning set forth in Clause 25.2.1;
- **“Tests”** means the Tests set forth in Schedule F to determine the completion of Works in accordance with the provisions of this Agreement;
- **“Time Extension”** shall have the meaning set forth in Clause 17.5.1;
- **“User”** means a person who uses or intends to use on the Project Works or any part thereof;

- **“Valuation of Unpaid Works”** shall have the meaning set forth in Clause 30.5.1;
- **“Works”** means all Works including survey and investigation, design, engineering, procurement, Construction, Plant, Materials, Maintenance, Temporary Works, and other things necessary to complete the Project Works as per scope in accordance with this Agreement; and
- **“WPI”** means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding billing cycle.

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED

SIGNED, SEALED AND DELIVERED

For and on behalf of

For and on behalf of

THE EMPLOYER by:

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

In the presence of 1. _____

2. _____

{COUNTERSIGNED and accepted by:

Name and particulars of other members of the Joint Venture}



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Part E Schedules



36 Schedule A: Applicable permits

The Contractor shall obtain, as required under the Applicable Laws, the following Applicable Permits:

- a) Permission of the State Government for extraction of boulders from quarry;
- b) Permission of Local Municipal Body/ Govt. Authorities and Pollution Control Board for installation of crushers.
- c) License for use of explosives;
- d) Permission of the State Government for Drawing water from river/reservoir/underground extraction.
- e) License from the inspector of factories or other competent authority for setting up the batching plant;
- f) Clearance of Pollution Control Board for setting up the batching plant;
- g) Clearance of Local Municipal Body/ Govt. Authorities and Pollution Control Board for setting up asphaltplant;
- h) Permission of Local Municipal Body and State Government to borrow earth; and
- i) Any other permits, clearances or approvals required for the execution of scope as per tender;
- j) Any other permits, clearances or approvals required under Applicable Laws.

Applicable permits, as required, relating to environmental protection and conservation shall have been procured by the Employer in accordance with the provisions of this Agreement.

37 Schedule B: Form of Bank Guarantee

37.1 Performance Security

.....

Employer.....WHEREAS:

- a) [name and address of Contractor] (“hereinafter called as Contractor”) and [name and address of the Employer], (“the Employer ”) have entered into an Agreement (the “Agreement”) for **Design, Construction, Testing, Commissioning, as per the scope defined** for the development of Bulk Drug Park at Nakkapalli , Anakapalli District, Andhra Pradesh “on EPC Basis”, subject to and in accordance with the provisions of the Agreement.
- b) The Agreement requires the Contractor to furnish a Performance Security for the due and faithful performance of its obligations, under and in accordance with the Agreement, during the Construction Period and Defects Liability Period (as defined in the Agreement) in a sum of Rs. Crore (RupeesCrore) (the “Guarantee Amount”).
- c) We,through our branch at (the “Bank”) have agreed to furnish this
Bank guarantee (hereinafter called the “Guarantee”) by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally, and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor’s obligations during and under and in accordance with the Agreement, and agrees and undertakes to pay to the Employer, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sumsup to an aggregate sum of the guarantee amount as the Employer shall claim, without the Employer being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Employer, under the hand of an officer not below the rank of [..... of Employer
], that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final, and binding on the Bank. The Bank further agrees that the Employer shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any difference between the Employer and the Contractor, or any Dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Employer shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity for the Employer to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Employer shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/or performance of all or any of the obligations of the Contractor contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Employer against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Employer, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Employer of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Employer or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Employer in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.
7. Notwithstanding anything contained herein before, the liability of the Bank under this Guarantee is restricted to the Guarantee amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Employer on the Bank under this Guarantee all rights of the Employer under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Performance Security shall cease to be in force and effect 90 (ninety) days after the end of the Defects Liability Period as set forth in Clauses 14.1
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Employer in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any demand for payment under this Guarantee shall be made on the Guarantor by the Purchaser in writing at(The Bank), and shall be deemed to have been sufficiently made by the Purchaser if the writing containing the demand is sent to the Guarantor by registered post (Courier) to the address as aforesaid or sent to the Guarantor by hand delivery at such address and written acknowledgement obtained of such delivery.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the or until it is released earlier by the Employer pursuant to the provisions of the Agreement, whichever is earlier.
12. Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this guarantee shall not be assignable or transferable by the beneficiary. Notice or invocation by any person such as assignee, transferee or agent of the beneficiary shall not be entertained by the Bank. Any invocation of a guarantee can be made only by the beneficiary directly.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

- i. Our liability under this guarantee shall not exceed Rs.....(Rupees).

- ii. This Bank Guarantee shall be valid up to
- iii. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before

Signed and sealed this day of 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by: (Signature)
(Name) (Designation) (Code Number)(Address)

NOTES:

- i. The Bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- ii. The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the cover letter of issuing branch.

37.2 Form of Guarantee for withdrawal of Retention Money

..... Employer.....

WHEREAS:

- a) (insert name and address of the contractor) (hereinafter called the “**Contractor**”) has executed an agreement (hereinafter called the “**Agreement**”) with the (insert name and address of the project authority), (hereinafter called the “**Authority**”) **Design, Construction, Testing, Commissioning**, as per the scope defined for the development of Bulk Drug Park at Nakkapalli , Anakapalli District, Andhra Pradesh “on EPC Basis”, subject to and in accordance with the provisions of the Agreement.
- b) (b) In accordance with Clause 14.5.3 of the Agreement, the Contractor may withdraw the retention money (hereinafter called the “**Retention Money**”) after furnishing to the Authority a bank guarantee for an amount equal to the proposed withdrawal.
- c) (c) We, through our branch at (the “**Bank**”) have agreed to furnish this bank guarantee (hereinafter called the “**Guarantee**”) for the amount of Rs. cr. (Rs. crore) (the “**Guarantee Amount**”).

NOW, THEREFORE, the Bank hereby unconditionally and irrevocably guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of a Chief Engineer (III) of the Authority, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Retention Money and any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from

enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

- 6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Retention Money.
- 7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
- 8. The Guarantee shall cease to be in force and effect 90 (ninety) days after the date of the Completion Certificate specified in Clause ___ of the Agreement.
- 9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
- 10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
- 11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)



(Code Number)

(Address)

NOTES:

- I. The bank guarantee should contain the name, designation, and code number of the officer(s) signing the guarantee.
- II. The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

37.3 Form for Guarantee for Advance Payment

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38 Schedule C: Contract Price Weightages

38.1 Weightages

38.1.1 The Contract Price for This Agreement is Rs Break up is attached as an annexure to the Price Bid Letter

38.1.2 The Contractor shall submit the further sub-billing breakup to schedule C for the purpose of making Payment after the award of the contract and get it approved by the Employer.

38.1.3 Proportions of the Contract Price for different stages of Construction of the Truck Infrastructure Road and Utilities/Services, Treatment Plants, and all other works shall be as specified below:

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
1	Submission and approval of "Data, Drawings and Analysis of Surveys & Investigations" and "Designs, Drawings and Reports	2.00%	Data, Drawings and Analysis of Surveys & Investigations	7.00%
			Designs, Drawings, and reports of roads works and road structures	8.00%
			Designs, Drawings, and reports of Storm water drainage network including bridges, Structures and Area grading & development, Entry gate boundary wall with fencing	6.00%
			Designs, Drawings, and reports of Water Treatment Plant & water supply, RO & EDI plant	6.00%
			Designs, Drawings, and reports of recycled water supply	
			Designs, Drawings, and reports of Wastewater Conveyance	2.00%
			Designs, Drawings, and reports of OHT Lines, Sub-stations, Power Supply including with Street lighting	8.00%
			Designs, Drawings, and reports of Emergency responses (ICT network)	
			Designs, Drawings, and reports of Solvent Recovery and Steam Generation & distribution	15.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			Designs, Drawings, and reports of CETP including Marine outfall	20.00%
			Designs, Drawings, and reports of Analytical Testing Labs	4.00%
			Designs, Drawings, and reports of Incubation Centre including labs	1.00%
			Designs, Drawings, and reports of Warehouse	2.00%
			Designs, Drawings, and reports of Truck Terminals	4.00%
			Designs, Drawings, and reports of Solid Waste Management (SWM)	1.00%
			Designs, Drawings, and reports of miscellaneous Works (Admin Buildings, R&D Building with Lab)	2.00%
			Designs, Drawings, and reports of Project facilities	2.00%
			As built Drawings	7.00%
			3-D model of all Project components	5.00%
2	Road Works	12.39%	Site clearance and initial activities including Earthwork up to the top of the sub-grade	32.00%
			Granular work - sub-base (GSB), base Course-(WMM) including shoulders	36.00%
			Bituminous Work (DBM, Prime coat, Tack Coat, BC)	24.00%
			Kerb (median kerb, junction & Island kerb	2.00%
			Traffic signs, markings and appurtenances, traffic signals & Street Lighting and Miscellaneous Items	1.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			Utility Crossings (NP-4 600 Dia) Single line and Road Crossing for Steam Pipeline (NP-4 600 Dia) Single Line	1.00%
			Fencing work including excavation, PCC, Vertical post with GI barbed wire, Plaster & Painting work	3.00%
			Road Crossing for Steam Pipeline (NP-4 600 Dia) Single Line	1.00%
3	Box Culverts & RCC Structures	1.05%	Box Culverts including (Excavation, PCC, filter media, weep holes, RCC, and Reinforcement)	30.00%
			Retaining wall including (Excavation, PCC, filter media, weep holes, RCC, and Reinforcement)	57.00%
			Protection works including (Pitching work, Toe wall PCC, filter media, Flexible apron, Backfilling etc)	13.00%
4	Bridges (Civil Work)	3.66%	General Items (clearing and grubbing, providing and laying filter media, weep holes and carryout geo-technical investigation)	3.00%
			Foundation- Pile works (Pile Boring including Liner, concreting, reinforcement Cage lowering etc) and Pile caps	41.00%
			Sub Structure- Pier shaft & Pier cap including Reinforcement.	14.00%
			Super Structure- Pedestal concrete, Fixing of Bearing, Precast PSC girders, Deck Slab, RCC crash barrier, Strip seal Expansion joints	40.00%
			Fixed Items - Approach Slabs, Bituminous concrete, GI Drainage spout and vertical joints	2.00%
5		3.11%	Site clearance and initial activities including Earthwork and PCC	15.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
	Storm water Drains of Length		Vibrated reinforced cement concrete complete in all respect (Raft, Walls, and Top slab) including HYSD steel reinforcement	79.00%
			Providing and fixing weep holes with 110 mm dia	6.00%
6	Landscaping	0.03%	Earthwork	32.00%
			Grassing	68.00%
7	Recycle Water Supply	0.68%	Supplying, Laying, erection, and joining of the pumping/rising/distribution mains with specials including earthwork for cutting, filling, disposal of the surplus earth and also provision for bedding	40.00%
			Valves, Valve chambers, Thrust blocks and	15.00%
			water service connections including water meters, incomplete	10.00%
			UGR / ESR includes compound wall and Main Gate	17.00%
			Supply, fixing & erection of all type of Mechanical & Electric work	3.00%
			Supply, fixing & erection with complete system including pipes, valves, UGR/ESR, meters, connection etc.	10.00%
			Performance Test	5.00%
8	31 MLD WTP	0.77%	Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works	35.00%
			a) Payment shall be made against receipt of material at the site. Chlorinator, alum dosing equipment with SS 304 material, flash mixer equipment, filtration plant equipment, Clariflocculator equipment with pneumatic tyre	70.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			wheel for the rotating bridge, wash water tank fittings & pump, air blower with motor.	
			b) payment shall be made against completion of Erection.	25.00%
			c) Commissioning of complete facility/system	5.00%
			Civil works	65.00%
			a) payment shall be made against completion of the Substructure/piling/raft up to the plinth in all aspects.	25.00%
			b) payment shall be made towards the completion of the superstructure in all aspects.	50.00%
			c) Completion of allied activities such as handrail, painting, epoxy coat etc..	20.00%
			d) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%
9	RO & EDI Plant of 4.4 MLD	1.43%	Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works	35.00%
			a) Payment shall be made against receipt of material at the site.	70.00%
			b) payment shall be made against completion of Erection.	25.00%
			c) Commissioning of complete facility/system	5.00%
			Civil works	65.00%
			a) payment shall be made against completion of the Substructure/piling/raft up to the plinth level in all aspects.	25.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			b) payment shall be made towards the completion of the superstructure in all aspects.	50.00%
			c) Completion of allied activities such as handrail, painting, epoxy coat etc. on a pro-rata basis.	20.00%
			d) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%
10	Water Supply Pipeline	4.41%	Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works	4.00%
			a) Provided supply, assembly & successful installation inclusive of pump, motor, valves, sensor, with meter & related equipment. Additionally completed all electrical work for the pump house & other work.	100.00%
			Civil works	37.00%
			a) payment shall be made against completion of the Substructure/piling/raft up to the plinth level (Include all type of structure like OHSR, PUMP HOUSE, UNDER GROUND SUMP)	40.00%
			b) payment shall be made towards the completion of the superstructure (Include all type of structure like OHSR, PUMP HOUSE, UNDER GROUND SUMP) Plinth level to remaining part.	40.00%
			c) Completion of allied activities such as handrail, painting, epoxy coat & other works etc	20.00%
			Distribution network	59.00%
			a) Supplying, erection, jointing & laying water supply distribution network of the pumping/rising (DI-K7)/distribution mains (HDPE) including earthwork, cost of pipeline, valves & specials (fittings).	95.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			b) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%
11	Common Solvent Recovery	3.62%	a) Solvent Recovery System (Reboiler, Feeding system, Heat exchanger, Vent condenser, Product cooler, Receivers, Pump, Instrumentation, PRV station and steam control, Insulation, Electrical works,)	50.00%
			b) Storage Tank for Distillation (Mother liquor tanks, recovered solvent tanks, Heat exchanger etc.)	31.00%
			c) Utility & Services for Distillation (Water tank, Cooling tower, Chilled water, Brine chiller, Electrical works, Civil works, Insulation)	14.00%
			d) Performance Test	5.00%
12	Steam Generation and Distribution	18.55%	CFBC Boilers of 2x100 tph (80 tph of net steam each)	50.00%
			Balance of Plant- Fuel handling, Ash handling, Power cycle and Auxiliary piping, EOT Crane, Water treatment plant, Water cooling system, Compressed air services, Chimney, Fire-fighting systems, Electrical and instrumentation, Air conditioning and ventilation, Workshop equipment, Erection and commissioning up to battery limit.	45.00%
			d) Performance Test	5.00%
13	Wastewater Conveyance	2.07%	a) Earth work excavation for Sump/OHT/Pump Room & Pipeline and depositing on bank in all types of soils (Murom, ordinary soils) including with Hard rock.	17.00%
			Filling in foundations with sand bed for Pipes in trenches, sides of foundations and basement.	

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			(other than black cotton soils and other expansive soils)"	
			b) Manufacture, Supply, Laying, lowering & jointing of HDPE pipes with special (fittings) & DI pipes with Socket Spigot Ends, rubber gasket.	31.00%
			c) Construction of Manhole with Chamber (Brick Masonry with Cement mortar & RCC) and laying of RCC NP3 Hume pipe	32.00%
			d) Supply and fixing of Equalisation Effluent/ Sewage Pump	15.00%
			6. Hydro testing and commissioning of complete system including pipes, valves, UGR/ESR, meters, connection, fire hydrants etc.	5.00%
14	CETP including Marine Outfall	27.55%	Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works, streetlight	70.00%
			a) Payment shall be made against receipt of material at the site	50.00%
			b) payment shall be made against completion of Erection.	45.00%
			c) Commissioning of complete facility/system	5.00%
			Civil works with roads & drains	30.00%
			a) payment shall be made against completion of the Substructure/piling/raft up to the plinth level.	23.00%
			b) payment shall be made towards the completion of the superstructure.	48.00%
			c) Completion of allied activities such as handrail, painting, epoxy coat etc..	15.00%
			d) Marine out fall including with all aspects	9.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			e) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%
15	Solid Waste Management (SWM)	0.39%	Complete Civil including all like Earth work, RCC, Masonry, Finishing works and other Misc Works	67.00%
			Complete all Mechanical works like Hopper, Slurry pump, Slurry pipeline and other Misc works	33.00%
16	Construction of Building for Centre of Excellence & Analytical Testing Labs	1.12%	Site Clearing, Earthwork Excavation, PCC, Filling, Anti Termite Treatment, DPC and Pile Boring works completion.	13.00%
			RCC and Waterproofing works completion	26.00%
			Brick Masonry, Plastering, Flooring, Interior finishing works like Joinery, Gypsum, Landscaping and other Miscellaneous works completion	17.00%
			Completion of Electrical Works, Fire Fighting and Plumbing Works	11.00%
			Compound wall, Gate & Security Post	25.00%
			Landscaping, Roads and Drains	8.00%
17	Analytical Testing & Center of Excellence Equipments testing & Laboratory	2.60%	Supply, installation & Commissioning of Lab equipments	
			General Testing Laboratory	30.00%
			Cyto Testing Laboratory	15.00%
			Microbiology Testing Laboratory	17.00%
			R&D Testing Laboratory	38.00%
18	Incubation Centre with Supply,	3.66%	Site Clearing, Earthwork Excavation, PCC, Filling, ATT and DPC and works completion, Pile Boring including RCC casting work completion.	6.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
	installation and commissioning of Labs & Testing equipments		RCC works completion	13.00%
			Brick Masonry, Plastering, Flooring and all interior finishing works like Joinery, and Gypsum, Landscaping and other Miscellaneous works completion	6.00%
			Completion of Electrical Works, Fire Fighting and Plumbing Works	4.00%
			Compound wall, Gate & Security Post	8.00%
			Landscaping and Roads and Drains	3.00%
			Supply, Commissioned and fixing of Testing of Lab Equipment	60.00%
19	Admin Building inclusive of all furnishings	0.70%	Site Clearing, Earthwork Excavation, PCC, Filling, ATT and DPC and works completion, Pile Boring including RCC casting work completion.	12.00%
			RCC works completion	22.00%
			Brick Masonry, Plastering, Flooring and all interior finishing works like Joinery, Interior and Gypsum, Landscaping, and other Miscellaneous works completion	27.00%
			Completion of Electrical Works, Fire Fighting and Plumbing Works	14.00%
			Compound wall, Gate & Security Post, Landscaping and Roads and Drains	25.00%
20	Warehouse	2.13%	Site Clearing, Earthwork Excavation, PCC, Filling, ATT and DPC and works completion, Pile Boring including and Structural RCC works completion	15.00%
			Fabrication and erection/fixing of Shade with structural steel with Pre-Painted Galvalume Trapezoidal	8.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
			Brick Masonry, Plastering, Flooring and Finishing works, SS Railing, joinery and Other Misc works	7.00%
			Completion of Electrical Works, Fire Fighting, Pump House and UG Sump	5.00%
			Compound wall, Gate & Security Post, Landscaping, Roads, Drains, Parking and Truck parking	14.00%
			Supply & installation of Equipment's cost	51.00%
21	Truck Parking	2.25%	Construction of Security at Parking 1 including civil, Electrical and Other Misc works	9.00%
			Construction of toilet block and Security cabin at Parking 2 including civil, Electrical and Other Misc Works	47.00%
			Construction of toilet block and Security cabin at Parking 3 including civil, Electrical and Other Misc Works	44.00%
22	Boundary Fencing Work	0.32%	a) - Boundary wall Civil Works	91.00%
			b) - Construction of Entry Gate including security room and other Misc Works	8.00%
			c) - Boundary Wall Fencing work	1.00%
23	11 KV Line	0.21%	a) Supply, Erection and Commissioning of all type of 11kV line including OHT UG of all sizes with end terminations	80.00%
			b) "Supply, Transportation, Erection, Testing & commissioning of 11kv/433v, 63 KVA	15.00%
			c) Commissioning of complete facility/system	5.00%

S.No	Name of Work	% of weightage in the contract price	Stage for Payment	Individual Percentage
24	33 KV LINE & Substations	2.05%	a) Supply, Erection, and commissioning of all type of 11kV line including OHT UG of all sizes with end terminations	35.00%
			b) Supply, Transportation, Erection, Testing, Commissioning of 33/11KV outdoor substation with control room and all other works	60.00%
			c) Commissioning of complete facility/system	5.00%
25	ICT	0.69%	a) CCTV	22.00%
			b) ICT Trench for cable	73.00%
			c) Commissioning of complete facility/system	5.00%
26	Streetlights including cable	1.56%	a) supply and fixing of all types of light fixtures including all types of poles basement etc.	83.00%
			b) supply testing commissioning and laying of all type of cables for lighting including feeder pillars and metering panels	12.00%
			c) Testing and Commissioning of all Facility System	5.00%
27	Designing & BIM Modelling, Tekla, Revit and Arial Photography	1%	Designing & BIM Modelling, Tekla, Revit	50%
			Start of the work and submission of the Design data	50%
			Submission of the Final Design and Drawing	50%
			Arial Photography	50%
			Start of the work	50%
			Submission of the Final Video and Photographs	50%

GST (Goods and Services Tax) would be payable at the applicable rates as may be in force from timeto time.

Note: Commissioning & Performance Testing of CETP :

The Contractor shall provide an undertaking that the Contractor will do the commissioning and

performance testing once the effluent is available within the Defects Liability Period at no additional cost. If the effluent is not available by the end of Defects Liability Period, the Contractor shall make necessary arrangements for effluent and shall complete performance testing. ..

38.2 The Procedure of Estimating the Value of Road Work Done

38.2.1 The procedure of Estimating the Value of Road Work done shall be as follows.

Stage for Payment	% of weightage	Payment procedure
Road Works		
a) Site clearance and initial activities including Earthwork up to the top of the sub-grade	32.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Granular work - sub-base (GSB), base Course- (WMM) including shoulders	36.00%	
c) Bituminous Work (DBM, Prime coat, Tack Coat, BC)	24.00%	
d) Kerb (median kerb, junction & Island kerb)	2.00%	
e) Traffic signs, markings and appurtenances, traffic signals & Street Lighting and Miscellaneous Items	1.00%	
f) Utility Crossings (NP-4 600 Dia) Single line and Road Crossing for Steam Pipeline (NP-4 600 Dia) Single Line	1.00%	
g) Fencing work including excavation, PCC, Vertical post with GI barbed wire, Plaster & Painting work	3.00%	
h) Road Crossing for Steam Pipeline (NP-4 600 Dia) Single Line	1.00%	

For example, if the total length of bituminous work to be done is L km, the cost per km of bituminous work shall be determined as follows;

Cost per km of Bituminous work = P x weightage for road work x weightage for bituminous work x (1/L)

= P x 26% x 14% x (1/L)

Where,

P = Contract Price

L = Total length of Bituminous work in km

38.2.2 Procedure for estimating the value of Box Culverts & RCC Structure Works including construction works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Box Culverts & RCC Structures		
a) Box Culverts including (Excavation, PCC, filter media, weep holes, RCC, and Reinforcement)	30.00%	Payment shall be made on completion of a stage on a pro-rata basis.
b) Retaining wall including (Excavation, PCC, filter media, weep holes, RCC, and Reinforcement)	57.00%	Payment shall be made on completion of a stage on a pro-rata basis.
c) Protection works including (Pitching work, Toe wall PCC, filter media, Flexible apron, Backfilling etc)	13.00%	Payment shall be made on completion of a stage on a pro-rata basis.

38.2.3 Procedure for estimating the value of Bridges Works with all surface finish done shall as follows.

Stage for Payment	% of weightage	Payment procedure
Bridge Works		
a) General Items (clearing and grubbing, providing and laying filter media, weep holes and carryout geo-technical investigation)	3.00%	<u>Foundation +Sub- Structure:</u> Cost of each minor bridge shall be determined on pro rata basis with respect to the total linear length (m) of the minor bridges. Payment against foundation + sub-structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation +substructure of each bridge subject to completion of atleast two foundations along with sub-structure upto abutment/pier cap level of each bridge
b) Foundation- Pile works (Pile Boring including Liner, concreting, reinforcement Cage lowering etc) and Pile caps	41.00%	
c) Sub Structure- Pier shaft & Pier cap including Reinforcement.	14.00%	
d) Super Structure- Pedestal concrete, Fixing of Bearing, Precast PSC girders, Deck Slab, RCC crash barrier, Strip seal Expansionjoints	40.00%	<u>Super-structure:</u> Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure of

Stage for Payment	% of weightage	Payment procedure
e) Fixed Items - Approach Slabs, Bituminous concrete, GI Drainage spout and vertical joints	2.00%	atleast one span in all respects as specified in the column of "Stage of Payment" in this sub-clause. Approaches: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of approaches in all respect as specified.

38.2.4 Procedure for estimating the value of storm water drain works including outfall works done shall as follows:

Stage for Payment	% of weightage	Payment procedure
Storm water Drain		
a) Site clearance and initial activities including Earthwork and PCC	15.00%	Payment shall be made on completion of a stage on a pro- rata basis in all aspects for a minimum length of 200mts.
b) Vibrated reinforced cement concrete complete in all respect (Raft, Walls, and Top slab) including HYSD steel reinforcement	79.00%	
c) Providing and fixing weep holes with 110 mm dia	6.00%	

38.2.5 Procedure for estimating the value of Landscaping works including construction works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Landscaping works		
a. Earthwork	32.00%	Payment shall be made on completion of a stage on pro rata basis in all aspects for a minimum area of 500 sqm.
b. Grassing	68.00%	

38.2.6 The procedure for estimating the value of the Recycle Water Supply done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
RECYCLE WATER SUPPLY		
a. Supplying, Laying, erection, and joining of the pumping/rising/distribution mains with specials including earthwork for cutting, filling, disposal of the surplus earth and provision for bedding	40.00%	Payment shall be made on completion of a stage on pro rata basis in all aspects for a minimum length of 500 mts
b. Valves, Valve chambers, Thrust blocks and	15.00%	
c. water service connections including water meters, incomplete	10.00%	
d. UGR / ESR includes compound wall and Main Gate	17.00%	
e. Supply, fixing & erection of all type of Mechanical & Electric work	3.00%	
f. Hydro testing and commissioning of complete system including pipes, valves, UGR/ESR, meters, connection etc.	10.00%	Payment shall be made on completion of a stage on pro rata basis
g. Performance Test	5.00%	Payment shall be made on full completion. No stage payment

38.2.7 The procedure for estimating the value of the 31 MLD WTP done shall be as follows.

Stage for Payment	% of weightage	Payment procedure
31 MLD WTP		
Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works	35.00%	
a) Payment shall be made against receipt of material at the site. Chlorinator, alum dosing equipment with SS 304 material, flash mixer equipment, filtration plant equipment, Clariflocculator equipment with pneumatic tyre wheel for the rotating bridge, wash water tank fittings & pump, air blower with motor.	70.00%	Payment shall be made on completion of a stage on a pro-rata basis.

Stage for Payment	% of weightage	Payment procedure
b) payment shall be made against completion of Erection.	25.00%	
c) Commissioning of complete facility/system	5.00%	Payment shall be made on full completion. No stage payment
Civil works	65.00%	
a) payment shall be made against completion of the Substructure/piling/raft up to the plinth in all aspects.	25.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) payment shall be made towards the completion of the superstructure in all aspects.	50.00%	
c) Completion of allied activities such as handrail, painting, epoxy coat etc..	20.00%	
d) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%	Payment shall be made on full completion. No stage payment

38.2.8 The procedure for establishing the value of the RO & EDI Plant of 4.4 MLD WTP done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
RO & EDI Plant of 4.4 MLD		
Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works	35.00%	
a. Payment shall be made against receipt of material at the site	70.00%	Payment shall be made on completion of a stage on a pro-rata basis.
b. payment shall be made against completion of Erection	25.00%	
c. Commissioning of complete facility/system	5.00%	Payment shall be made on full completion. No stage payment

Stage for Payment	% of weightage	Payment procedure
Civil works	65.00%	
a) payment shall be made against completion of the Substructure/piling/raft up to the plinth level in all aspects.	25.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) payment shall be made towards the completion of the superstructure in all aspects.	50.00%	
c) Completion of allied activities such as handrail, painting, epoxy coat etc.	20.00%	
d) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%	Payment shall be made on full completion. No stage payment

38.2.9 Procedure for establishing the value of water supply networks done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Water Supply		
Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works	4.00%	
a) Provided supply, assembly & successful installation inclusive of pump, motor, valves, sensor, with meter & related equipment. Additionally completed all electrical work for the pump house & other work.	100.00%	Payment shall be made on completion of a stage on pro rata basis.
Civil works	37.00%	
a) payment shall be made against completion of the Substructure/piling/raft up to the plinth level (Include all type of structure like OHSR, PUMP HOUSE, UNDER GROUND SUMP)	50.00%	Payment shall be made on completion of a stage on pro rata basis
b) payment shall be made towards the completion of the superstructure (Include all type of structure like OHSR, PUMP HOUSE, UNDER GROUND	45.00%	

Stage for Payment	% of weightage	Payment procedure
SUMP) Plinth level to remaining part.		
c) Completion of allied activities such as handrail, painting, epoxy coat & other works etc.	5.00%	
Distribution network	59.00%	
a) Supplying, erection, jointing & laying water supply distribution network of the pumping/rising (DI-K7)/distribution mains (HDPE) including earthwork, cost of pipeline, valves & specials (fittings).	95.00%	Payment shall be made on completion of a stage on pro rata basis
b) Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%	Payment shall be made on full completion. No stage payment

38.2.10 Procedure for establishing the value of Common Solvent Recovery works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Common Solvent Recovery		
a) Solvent Recovery System (Reboiler, Feeding system, Heat exchanger, Vent condenser, Product cooler, Receivers, Pump, Instrumentation, PRV station and steam control, Insulation, Electrical works,)	50.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Storage Tank for Distillation (Mother liquor tanks, recovered solvent tanks, Heat exchanger etc.)	31.00%	
c) Utility & Services for Distillation (Water tank, Cooling tower, Chilled water, Brine chiller, Electrical works, Civil works, Insulation)	14.00%	
f. Performance Test	5.00%	Payment shall be made on full

Stage for Payment	% of weightage	Payment procedure
		completion. No stage payment

38.2.11 Procedure for estimating the value of Steam Generation and Distribution works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Steam Generation and Distribution		
a) CFBC Boilers of 2x100 tph (80 tph of net steam)	50.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Balance of Plant- Fuel handling, Ash handling, Power cycle and Auxiliary piping, EOT Crane, Water treatment plant, Water cooling system, Compressed air services, Chimney, Fire-fighting systems, Electrical and instrumentation, Air conditioning and ventilation, Workshop equipment, Erection and commissioning up to battery limit.	45.00%	
d) Performance Test	5.00%	Payment shall be made on full completion. No stage payment

38.2.12 Procedure for estimating the value of Wastewater Conveyance works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Wastewater conveyance		
a) Earth work excavation for Sump/OHT/Pump Room & Pipeline and depositing on bank in all types of soils (Murom, ordinary soils) including with Hard rock. Filling in foundations with sand bed for Pipes in trenches, sides of foundations and basement. (other than black cotton soils and other expansive soils)"	17.00%	Payment shall be made on completion of a stage on a pro-rata basis

Stage for Payment	% of weightage	Payment procedure
b) Manufacture, Supply, Laying, lowering & jointing of HDPE pipes with special (fittings) & DI pipes with Socket Spigot Ends, rubber gasket.	31.00%	
c) Construction of Manhole with Chamber (Brick Masonry with Cement mortar & RCC) and laying of RCC NP3 Hume pipe	32.00%	
d) Supply and fixing of Equalisation Effluent/ Sewage Pump	15.00%	
e) Hydro testing and commissioning of complete system including pipes, valves, UGR/ESR, meters, connection, fire hydrants etc.	5.00%	Payment shall be made on full completion. No stage payment

38.2.13 Procedure for estimating the value of CETP including Marine Outfall works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
CETP including Marine Outfall		
Mechanical, Electrical, Instrumentation Control and Automation (MEICA) Works, streetlight	70.00%	
a. Payment shall be made against receipt of material at the site	40.00%	Payment shall be made on completion of a stage on a pro-rata basis
b. payment shall be made against completion of Erection.	40.00%	
c. Commissioning of complete facility/system	20.00%	Payment shall be made on full completion. No stage payment
Civil works with roads & drains	30.00%	
a. payment shall be made against completion of the Substructure/piling/raft up to the plinth level.	23.00%	Payment shall be made on completion of a stage on a pro-rata basis

Stage for Payment	% of weightage	Payment procedure
b. payment shall be made towards the completion of the superstructure.	48.00%	
c. Completion of allied activities such as handrail, painting, epoxy coat etc.	15.00%	
d. Marine out fall including with all aspects	9.00%	
e. Payment shall be made on commissioning in totality & successful Completion of Hydro-test / Performance test	5.00%	Payment shall be made on full completion. No stage payment

38.2.14 The procedure for estimating the value of Solid Waste Management (SWM) works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Solid Waste Management (SWM) Works		
a. Complete Civil including all like Earth work, RCC, Masonry, Finishing works and other Misc Works	67.00%	Payment shall be made on completion of a stage on a pro-rata basis
b. Complete all Mechanical works like Hopper, Slurry pump, Slurry pipeline and other Misc works	33.00%	Payment shall be made on completion of a stage on a pro-rata basis

38.2.15 The procedure for estimating the value of Construction of Building for Centre of Excellence, R&D Labs & Analytical Testing Labs works shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Construction of Building for Centre of Excellence, R&D Labs & Analytical Testing Labs		
a) Site Clearing, Earthwork Excavation, PCC, Filling, Anti Termite Treatment, DPC and Pile Boring works completion.	13.00%	Payment shall be made on completion of a stage on a pro-

Stage for Payment	% of weightage	Payment procedure
b) RCC and Waterproofing works completion	26.00%	rata basis
c) Brick Masonry, Plastering, Flooring, Interior finishing works like Joinery, Gypsum, Landscaping and other Miscellaneous works completion	17.00%	
d) Completion of Electrical Works, Fire Fighting and Plumbing Works	11.00%	
e) Compound wall, Gate & Security Post	25.00%	
f) Landscaping, Roads and Drains	8.00%	

38.2.16 The procedure for estimating the value of Analytical Testing & Center of Excellence Equipments testing & Laboratory done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Analytical Testing & Center of Excellence Equipments testing & Laboratory		
Supply, installation & Commissioning of Lab equipments		
a) General Testing Laboratory	30.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Cyto Testing Laboratory	15.00%	
c) Microbiology Testing Laboratory	17.00%	
d) R&D Testing Laboratory	38.00%	

38.2.17 The procedure for estimating the value of Incubation Centre with Supply, installation and commissioning of Labs & Testing equipments done shall be as follows.

Stage for Payment	% of weightage	Payment procedure
Incubation Centre with Supply, installation and		

Stage for Payment	% of weightage	Payment procedure
commissioning of Labs & Testing equipments		
a) Site Clearing, Earthwork Excavation, PCC, Filling, ATT and DPC and works completion, Pile Boring including RCC casting work completion.	6.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) RCC works completion	13.00%	
c) Brick Masonry, Plastering, Flooring and all interior finishing works like Joinery, and Gypsum, Landscaping and other Miscellaneous works completion	6.00%	
d) Completion of Electrical Works, Fire Fighting and Plumbing Works	4.00%	
e) Compound wall, Gate & Security Post	8.00%	
f) Landscaping and Roads and Drains	3.00%	
g) Supply, Commissioned and fixing of Testing of Lab Equipment	60.00%	

38.2.18 The procedure for estimating the value of Admin Building inclusive of all furnishings done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Admin Building inclusive of all furnishings		
a) Site Clearing, Earthwork Excavation, PCC, Filling, ATT and DPC and works completion, Pile Boring including RCC casting work completion.	12.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) RCC works completion	22.00%	
c) Brick Masonry, Plastering, Flooring and all interior finishing works like Joinery, Interior and Gypsum, Landscaping, and other	27.00%	

Stage for Payment	% of weightage	Payment procedure
Miscellaneous works completion		
d) Completion of Electrical Works, Fire Fighting and Plumbing Works	14.00%	
e) Compound wall, Gate & Security Post, Landscaping and Roads and Drains	25.00%	

38.2.19 The procedure for estimating the value of Warehouse Works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Warehouse		
a) Site Clearing, Earthwork Excavation, PCC, Filling, ATT and DPC and works completion, Pile Boring including and Structural RCC works completion	15.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Fabrication and erection/fixing of Shade with structural steel with Pre-Painted Galvalume Trapezoidal	8.00%	
c) Brick Masonry, Plastering, Flooring and Finishing works, SS Railing, joinery and Other Misc works	7.00%	
d) Completion of Electrical Works, Fire Fighting, Pump House and UG Sump	5.00%	
e) Compound wall, Gate & Security Post, Landscaping, Roads, Drains, Parking and Truck parking	14.00%	
f) Supply & installation of Equipment's cost	51.00%	

38.2.20 The procedure for estimating the value of Truck Parking Works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Truck Parking		
a) Construction of Security at Parking 1 including civil, Electrical and Other Misc works	9.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Construction of toilet block and Security cabin at Parking 2 including civil, Electrical and Other Misc Works	47.00%	
c) Construction of toilet block and Security cabin at Parking 3 including civil, Electrical and Other Misc Works	44.00%	

38.2.21 The procedure for estimating the value of Warehouse Works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
Boundary wall Fencing		
14.a1 - Boundary wall Civil Works	91.00%	Payment shall be made on completion of a stage on a pro-rata basis
14.b1 - Construction of Entry Gate including security room and other Misc Works	8.00%	
14.c1 - Boundary Wall Fencing work	1.00%	

38.2.22 The procedure for estimating the value of Truck Parking Works done shall be as follows:

Stage for Payment	% of weightage	Payment procedure
11KV Lines		
a) Supply, Erection and Commissioning of all type of 11kV line including OHT UG of all sizes with end terminations	80.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) "Supply, transportation, erection, tetsing & commissioning of 11kv/433v, 63 KVA	15.00%	

Stage for Payment	% of weightage	Payment procedure
c) Commissioning of complete facility/system	5.00%	Payment shall be made on full completion
33KV Lines & Substation		
a) Supply, Erection, and commissioning of all type of 11KV line including OHT UG of all sizes with end terminations	35.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) Supply, Transportation, Erection, Testing, Commissioning of 33/11KV outdoor substation with control room and all other works	60.00%	
c) Commissioning of complete facility/system	5.00%	Payment shall be made on full completion
ICT		
a) CCTV	22.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) ICT Trench for cable	73.00%	
c) Commissioning of complete facility/system	5.00%	Payment shall be made on full completion
Streetlights including Cables		
a) supply and fixing of all types of light fixtures including all types of poles basement etc.	83.00%	Payment shall be made on completion of a stage on a pro-rata basis
b) supply and laying of all type of cables for lighting including feeder pillars and metering panels	12.00%	
b) Testing and Commissioning of all Facility System pillars and metering panels	5.00%	Payment shall be made on full completion

38.3 Procedure for payment for Maintenance

38.3.1 Deleted.

39 Schedule D: Drawings

39.1 Drawings

In compliance with the obligations set forth in Clause 17.2 of this Agreement, the Contractor shall furnish to the Employer's Engineer, free of cost, all Drawings listed in Schedule.

39.2 Additional Drawings

If the Employer's Engineer determines that for discharging its duties and functions under this Agreement, it requires any Drawings other than those listed in Schedule D, it may by notice require the Contractor to prepare and furnish such Drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such Drawings to the Employer's Engineer, as if such Drawings formed part of this Schedule-D. All the Drawings that the Contractor is required to furnish under Clause 17.2 for the Construction of Roads, Water Supply, Recycled Water, Firefighting Sewerage, Storm Water Drains & Power systems are given in the table below;

S No	DRAWING DETAILS
1	MASTER PLAN
2	ROADS
i	Storm water drain Network Plan
ii	Numeration RCC Details of Cast in Situ Longitudinal Drain
iii	Typical Details of Road Signs & Marking
iv	Typical Junction Signs and Marking
v	Proposed Road Network Plan
vi	Typical Cross Section
vii	Plan & Profile - 45-01-1
viii	Plan and Profile- 30-01 To 30-07
ix	Plan and Profile-24-01 To 24-04
x	Plan And Profile- 18-01 To 18-07
xi	General Arrangement Drawing of MJB At Ch- 0+325 (Sh 1 Of 2 & 2 Of 2)
xii	General Arrangement Drawing of MJB At Ch- 0+358.75 (Sh 1 Of 2 & 2 Of 2)
xiii	General Arrangement Drawing of MNB At Ch- 0+505.921

S No	DRAWING DETAILS
xiv	General Arrangement Drawing of MJB At Ch- 1+470 (Sh 1 Of 2 & 2 Of 2)
xv	Typical General Arrangement Drawing of Box Culverts
xvi	Numeration RCC Details of Cast In Situ Longitudinal Drain
3	BUILDINGS
3.1	ADMIN BUILDING
i	ADMINISTRATION BUILDING SITE PLAN
ii	ADMINISTRATION BUILDING GROUND FLOOR PLAN
iii	ADMINISTRATION BUILDING FIRST FLOOR PLAN
iv	ADMINISTRATION BUILDING TERRACE PLAN
v	ADMINISTRATION BUILDING SECTION-AA & ELEVATION-1 & 2
vi	ADMINISTRATION BUILDING ELEVATION-3 & 4
vii	ADMINISTRATION BUILDING GROUND FLOOR FINISHES
viii	ADMINISTRATION BUILDING FIRST FLOOR FINISHES
ix	ADMIN BLOCK - LIGHTING AND SMALL POWER CONDUIT LAYOUT GROUND FLOOR
x	ADMIN BLOCK - EXTERNAL LIGHTING LAYOUT
xi	TYPICAL FOUNDATION DETAILS OF 250kVA DG SET (SHEET 2 OF 5)
xii	ADMIN BUILDING FIRE FIGHTING SYSTEM
xiii	ADMINISTRATION BUILDING - INTERNAL WATER SUPPLY LAYOUT - GROUND FLOOR
xiv	ADMINISTRATION BUILDING - INTERNAL SEWER LAYOUT - GROUND FLOOR
xv	ADMINISTRATION BUILDING - PILE LAYOUT AND DETAILS
xvi	ADMINISTRATION BUILDING - PILE CAP LAYOUT AND DETAILS
xvii	ADMINISTRATION BUILDING - COLUMN LAYOUT AND DETAILS

S No	DRAWING DETAILS
xviii	ADMINISTRATION BUILDING - FLOOR BEAM LAYOUT & DETAILS @(+)3.2M LVL
xix	ADMINISTRATION BUILDING - FLOOR BEAM LAYOUT & DETAILS @(+)6.4M LVL
xx	ADMINISTRATION BUILDING - SLAB LAYOUT & DETAILS @(+)3.2M LVL
xxi	ADMINISTRATION BUILDING - SLAB LAYOUT & DETAILS @(+)6.4M LVL
xxii	ADMINISTRATION BUILDING - STAIRCASE-1, LIFT - LAYOUT & DETAILS
xxiii	ADMINISTRATION BUILDING - STAIRCASE-2 LAYOUT & DETAILS
3.2	R&B LAB
i	R&D LAB GROUND FLOOR PLAN
ii	R&D LAB FIRST FLOOR PLAN
iii	R&D LAB TERRACE PLAN
iv	R&D LAB SECTION-AA & ELEVATION-1 & 2
v	R&D LAB ELEVATION-3 & 4
vi	R&D LAB GROUND FLOOR FINISHES
vii	R&D LAB FIRST FLOOR FINISHES
viii	R&D LAB - LIGHTING AND SMALL POWER LAYOUT GROUND FLOOR
ix	R&D LAB - EXTERNAL LIGHTING LAYOUT
x	TYPICAL FOUNDATION DETAILS OF 320kVA DG SET (SHEET 1 OF 5)
xi	R&D LAB FIRE FIGHTING SYSTEM
xii	R & D LAB - INTERNAL WATER SUPPLY LAYOUT - GROUND FLOOR (SHEET 1 OF 2)
xiii	R & D LAB - INTERNAL WATER SUPPLY LAYOUT - GROUND FLOOR (SHEET 2 OF 2)
xiv	R & D LAB - INTERNAL SEWER LAYOUT - GROUND FLOOR (SHEET 1 OF 2)
xv	R & D LAB - INTERNAL SEWER LAYOUT - GROUND FLOOR (SHEET 2 OF 2)

S No	DRAWING DETAILS
xvi	R&D LAB PILE LAYOUT & DETAIL
xvii	R&D LAB PILE CAP AND TIE BAM LAYOUT & DETAILS
xviii	R&D LAB PILE CAP AND TIE BAM LAYOUT & DETAILS
xix	R&D LAB COLUMN CENTER LINE LAYOUT & DETAIL
xx	R&D LAB FLOOR SLAB LAYOUT & DETAILS @(+5.10M LVL
xxi	R&D LAB ROOF BEAM LAYOUT & DETAILS @ (+)9.60M LVL
xxii	R&D LAB ROOF SLAB LAYOUT & DETAILS @+)9.60M LVL
xxiii	R&D LAB STAIRCASE-1 LAYOUT & DETAILS
xxiv	R&D LAB STAIRCASE -2 LAYOUT & DETAILS
xxv	R&D LAB STAIRCASE-1 LAYOUT & DETAILS
3.3	INCUBATION CENTRE
i	INCUBATION CENTRE - GROUND FLOOR PLAN
ii	INCUBATION CENTRE - FIRST FLOOR PLAN
iii	INCUBATION CENTRE - TERRACE PLAN
iv	INCUBATION CENTRE - SCETION-AA & ELEVATION-1 & 2
v	INCUBATION CENTRE - ELEVATION- 3 & 4
vi	INCUBATION CENTRE - GROUND FLOOR FINISHES
vii	INCUBATION CENTRE - FIRST FLOOR FINISHES
viii	INCUBATION CENTER - LIGHTING AND SMALL POWER LAYOUT GROUND FLOOR
ix	INCUBATION CENTER - EXTERNAL LIGHTING LAYOUT
x	TYPICAL FOUNDATION DETAILS OF 250kVA DG SET (SHEET 2 OF 5)
xi	INCUBATION CENTRE FIRE FIGHTING SYSTEM

S No	DRAWING DETAILS
xii	INCUBATION CENTRE - INTERNAL WATER SUPPLY LAYOUT - GROUND FLOOR (SHEET 1 OF 2)
xiii	INCUBATION CENTRE - INTERNAL SEWER LAYOUT - GROUND FLOOR (SHEET 1 OF 2)
xiv	INCUBATION CENTER - PILE LAYOUT & DETAIL
xv	INCUBATION CENTER - PILE CAP AND TIE BAM LAYOUT & DETAILS
xvi	INCUBATION CENTER - PILE CAP AND TIE BAM & DETAILS
xvii	INCUBATION CENTER - COLUMN CENTER LINE LAYOUT & DETAIL
xviii	INCUBATION CENTER - FLOOR BEAM LAYOUT & DETAILS AT (+)5.10M LVL (TOB)
xix	INCUBATION CENTER - FLOOR SLAB LAYOUT & DETAILS AT (+)5.10M LVL (TOS)
xx	INCUBATION CENTER - ROOF BEAM LAYOUT & DETAILS AT (+)9.60M LVL (TOB)
xxi	INCUBATION CENTER - ROOF SLAB LAYOUT & DETAILS AT (+)9.60M LVL (TOS)
xxii	INCUBATION CENTER - STAIRCASE -1 LAYOUT & DETAILS
xxiii	INCUBATION CENTER - STAIRCASE 2 & 3 LAYOUT & DETAILS
3.4	WAREHOUSE
i	API WAREHOUSE BLOCK SITE PLAN
ii	API WAREHOUSE BLOCK GROUND FLOOR PLAN
iii	API WAREHOUSE BLOCK FIRST & ROOF FLOOR PAN
iv	API WAREHOUSE BLOCK ELEVATION-01&03 & SECTION-AA'
v	API WAREHOUSE BLOCK ELEVATION-02&04
vi	WAREHOUSE - LIGHTING AND SMALL POWER LAYOUT GROUND FLOOR
vii	WAREHOUSE - EXTERNAL LIGHTING LAYOUT
viii	TYPICAL FOUNDATION DETAILS OF 100KVA DG SET (SHEET 4 OF 5)
ix	WAREHOUSE FIRE FIGHTING SYSTEM

S No	DRAWING DETAILS
x	WAREHOUSE GENERAL ARRANGEMENT DRAWING OF FIRE UG SUMP 75 cum
xi	WAREHOUSE GENERAL ARRANGEMENT DRAWING OF FIRE PUMP ROOM (5M X 4M)
xii	API WARE HOUSE PILE LAYOUT & DETAIL
xiii	API WARE HOUSE PILE CAP LAYOUT & DETAIL
xiv	API WARE HOUSE COLUMN CENTER LAYOUT & DETAIL
xv	API WARE HOUSE FLOOR BEAM LAYOUT & DETAIL
xvi	API WARE HOUSE FLOOR SLAB LAYOUT & DETAIL
xvii	API WARE HOUSE ROOF BEAM LAYOUT & DETAIL
xviii	API WARE HOUSE ROOF SLAB LAYOUT & DETAIL
xix	API WARE HOUSE STAIRCASE -1 LAYOUT & DETAIL
xx	API WARE HOUSE BASE PLATE ,SIDE VIEW AND FRAME LAYOUT & DETAIL
xxi	API WARE HOUSE PURLIN LAYOUT & DETAIL
xxii	HOT STORAGE WARE HOUSE PILE LAYOUT & DETAIL
xxiii	HOT STORAGE WARE HOUSE PILE CAP LAYOUT & DETAIL
xxiv	HOT STORAGE WARE HOUSE PEDESTAL CENTER LAYOUT & DETAIL
xxv	HOT STORAGE WARE HOUSE BASE PLATE, SIDE VIEW AND FRAME LAYOUT & DETAIL
xxvi	HOT STORAGE WARE HOUSE PURLIN LAYOUT & DETAIL
xxvii	R & D WARE HOUSE PURLIN LAYOUT & DETAIL
4	WATER SUPPLY
i	POTABLE PUMPING MAIN ALIGNMENT
ii	SCHEMATIC DIAGRAM FOR POTABLE WATER SUPPLY
iii	POTABLE WATER NETWORK ZONING

S No	DRAWING DETAILS
iv	POTABLE WATER NETWORK (Sheet 1 of 2)
v	POTABLE WATER NETWORK (Sheet 2 of 2)
vi	TYPICAL PROPERTY CONNECTION DETAILS (Sheet 1 of 2)
vii	TYPICAL PROPERTY CONNECTION DETAILS (Sheet 2 of 2)
viii	THRUST BLOCK DETAILS
ix	TYPICAL VALVE CHAMBER DETAILS
x	GENERAL ARRANGEMENT OF 2700 KL OHSR-1 (10M STAGING HEIGHT)
xi	GENERAL ARRANGEMENT OF 2700KL OHSR-2 (10M STAGING)
xii	GENERAL ARRANGEMENT OF 2700KL OHSR-3 (8M STAGING HEIGHT)
xiii	GENERAL ARRANGEMENT OF 2700KL OHSR-4 (10M STAGING HEIGHT)
xiv	GENERAL ARRANGEMENT OF 2700KL OHSR-5 (12M STAGING)
xv	GENERAL ARRANGEMENT DRAWING OF UG SUMP 1 (1200CUM)
xvi	GENERAL ARRANGEMENT DRAWING OF UG SUMP 2 (500CUM) LOCATION: OHSR 2
xvii	GENERAL ARRANGEMENT DRAWING OF UG SUMP 3 (500CUM) - LOCATION: OHSR 4
xviii	GENERAL ARRANGEMENT DRAWING OF POTABLE PUMP ROOM(16M X 8.5M) LOCATION: OHSR 1
xix	GENERAL ARRANGEMENT DRAWING OF POTABLE PUMPROOM (5M X 4M) LOCATION OHSR 2
xx	GENERAL ARRANGEMENT DRAWING OF POTABLE PUMP ROOM (5M X 4M) LOCATION OHSR 4
5	CETP
i	CETP Scheme A, B & C Hydraulic Flow Diagram Sheet 1 Of 5
ii	CETP Scheme A, B & C Hydraulic Flow Diagram Sheet 2 Of 5
iii	CETP Scheme A, B & C Hydraulic Flow Diagram Sheet 3 Of 5

S No	DRAWING DETAILS
iv	CETP Scheme A, B & C Hydraulic Flow Diagram Sheet 4 Of 5
v	CETP Scheme A, B & C Hydraulic Flow Diagram Sheet 5 Of 5
vi	Establishment Of 12 MLD CETP-Tentative CETP Layout
vii	Typical Cross Section for CETP Layout
viii	General arrangement drawing outfall system-GA
ix	Longitudinal profile of Outfall pipeline-PROFILE
6	POWER SUPPLY
i	33KV OVERHEAD TRANSMISSION LINE NETWORK (SHEET 1 OF 5)
ii	11KV OVERHEAD DISTRIBUTION LINE NETWORK (SHEET 2 OF 5)
iii	TYPICAL DETAILS OF M+6 TOWER (SHEET 3 OF 5)
iv	33/11KV CONTROL ROOM TYPICAL GA DRAWING (SHEET 4 OF 5)
v	BOUNDARY WALL DETAILS FOR 33-11KV SUBSTATION (SHEET 5 OF 5)
vi	TYPICAL SINGLE LINE DIAGRAM
vii	Earthing for transformer & feeder panel
viii	TYPICAL EARTHING ARRANGEMENT FOR DISTRIBUTION TRANSFORMER AND FEEDER PILLAR PANEL
ix	STREETLIGHT & HIGHMAST LIGHTING NETWORK
x	TYPICAL DETAILS OF STREETLIGHT POLE AND FEEDER PILLAR PANEL
xi	TYPICAL DETAILS OF EARTHING SYSTEM.
xii	TYPICAL DETAILS OF 12M HIGHMAST (SHEET 1 OF 2)
7	WASTE WATER
i	HTDiS OVERALL NETWORK SHEET

S No	DRAWING DETAILS
ii	HTDiS NETWORK SHEET LAYOUT
iii	HTDiS NETWORK - SHEET 1 OF 12
iv	HTDiS NETWORK - SHEET 2 OF 12
v	HTDiS NETWORK - SHEET 3 OF 12
vi	HTDiS NETWORK - SHEET 4 OF 12
vii	HTDiS NETWORK - SHEET 5 OF 12
viii	HTDiS NETWORK - SHEET 6 OF 12
ix	HTDiS NETWORK - SHEET 7 OF 12
x	HTDiS NETWORK - SHEET 8 OF 12
xi	HTDiS NETWORK - SHEET 9 OF 12
xii	HTDiS NETWORK - SHEET 10 OF 12
xiii	HTDiS NETWORK - SHEET 11 OF 12
xiv	HTDiS NETWORK - SHEET 12 OF 12
xv	LTDiS OVERALL NETWORK SHEET
xvi	LTDiS NETWORK SHEET LAYOUT
xvii	LTDiS NETWORK - SHEET 1 OF 12
xviii	LTDiS NETWORK - SHEET 2 OF 12
xix	LTDiS NETWORK - SHEET 3 OF 12
xx	LTDiS NETWORK - SHEET 4 OF 12
xxi	LTDiS NETWORK - SHEET 5 OF 12
xxii	LTDiS NETWORK - SHEET 6 OF 12

S No	DRAWING DETAILS
xxiii	LTDiS NETWORK - SHEET 7 OF 12
xxiv	LTDiS NETWORK - SHEET 8 OF 12
xxv	LTDiS NETWORK - SHEET 9 OF 12
xxvi	LTDiS NETWORK - SHEET 10 OF 12
xxvii	LTDiS NETWORK - SHEET 11 OF 12
xxviii	LTDiS NETWORK - SHEET 12 OF 12
xxix	LIFTING STATION LAYOUT AND DETAILS
xxx	MANHOLE DETAILS (SHEET 1 OF 3)
xxxi	BRICK MANHOLE DETAILS (SHEET 2 OF 3)
xxxii	BRICK MANHOLE DETAILS (SHEET 2 OF 3)
xxxiii	LTDiS LIFTING STATION
xxxiv	LTDiS MANHOLE (SHEET 1 OF 3)
xxxv	LTDiS MANHOLE (SHEET 2 OF 3)
xxxvi	LTDiS MANHOLE (SHEET 3 OF 3)
8	RECYCLE WATER
i	Recycle Water Network
ii	Recycle Water Pumping Main Alignment
iii	Schematic Diagram for Recycle Water Supply
iv	Recycle Water Network Zoning
v	General Arrangement Of 700kl OHSR-1 Recycle Water (10m Staging Height)
vi	General Arrangement Drawing of Recycle Water Pump Room (16m X 8.5m) Location: CETP
9	COMPOUND WALL

S No	DRAWING DETAILS
i	TYP COMPOUND WALL DETAILS
ii	BOUNDARY FENCING LAYOUT
iii	GATEWAY-PLAN AT +1.35 M LEVEL (SHEET 1 OF 4)
iv	GATEWAY-PLAN AT ROOF LEVEL (SHEET 2 OF 4)
v	GATEWAY- ELEVATION AND SECTION (SHEET 3 OF 4)
vi	GATEWAY- ELEVATION AND SECTION (SHEET 4 OF 4)
vii	BARBED FENCING DETAILS
10	OTHERS
10.1	TRUCK PARKING LAYOUT
i	TYPICAL FOUNDATION DETAILS OF 125kVA DG SET (SHEET 3 OF 5)
ii	TYPICAL FOUNDATION DETAILS OF 62.5kVA DG SET (SHEET 5 OF 5)
iii	TYPICAL DETAILS OF 20M HIGHMAST (SHEET 2 OF 2)
iv	PARKING P-1 & P-2 : HIGH MAST LIGHTING LAYOUT FOR (SHEET 1 OF 2)
v	PARKING P-3 : HIGH MAST LIGHTING LAYOUT FOR (SHEET 2 OF 2)
vi	PARKING DORMITORY - LIGHTING AND SMALL POWER LAYOUT
vii	PARKING-2 TOILET : LIGHTING LAYOUT FOR(SHEET 1 OF 2)
viii	PARKING-3 TOILET : LIGHTING LAYOUT FOR(SHEET 2 OF 2)
ix	PARKING P-1(2Nos),P-2 & P-3 SECURITY CABIN - LIGHTING AND SMALL POWER LAYOUT
x	Parking Security Cabin electrical
xi	PARKING TOILET GAD
xii	PARKING DORMITORY GAD
xiii	PARKING SECURITY CABIN GAD

S No	DRAWING DETAILS
xiv	TRUCK PARKING LOCATIONS
xv	PAVEMENT MARKING LAYOUTS FOR TRUCK PARKING
xvi	PAVEMENT SECTION DETAILS FOR TRUCK PARKING
xvii	Pavement Section details for Truck Parking
xviii	PARKING LAYOUT
xix	PARKING ENTRY EXIT GATE DETAILS
xx	PARKING DORMITORY - WS & SEWER
xxi	PARKING 2 & 3 TOILET BLOCK - WS & SEWER
xxii	PARKING-2 TOILET BLOCK PILE LAYOUT & DETAIL
xxiii	PARKING-2 TOILET BLOCK PILE CAP AND TIE BAM LAYOUT & DETAILS
xxiv	PARKING-2 TOILET BLOCK COLUMN CENTER LINE LAYOUT & DETAIL
xxv	PARKING-2 TOILET BLOCK ROOF BEAM AND LAYOUT & DETAILS AT (+)3.60M LVL (TOB)
xxvi	PARKING-2 TOILET BLOCK ROOF SLAB LAYOUT & DETAILS AT (+)3.60M LVL (TOS)
xxvii	PARKING-3 TOILET BLOCK PILE LAYOUT & DETAIL
xxviii	PARKING-3 TOILET BLOCK PILE CAP AND TIE BAM LAYOUT & DETAILS
xxix	PARKING-3 TOILET BLOCK COLUMN CENTER LINE LAYOUT & DETAIL
xxx	PARKING-3 TOILET BLOCK ROOF BEAM AND LAYOUT & DETAILS AT (+)3.60M LVL (TOB)
xxxi	PARKING-3 TOILET BLOCK ROOF SLAB LAYOUT & DETAILS AT (+)3.60M LVL (TOS)
xxxii	DORMITORY PILE LAYOUT & DETAIL
xxxiii	DORMITORY PILE CAP AND TIE BAM LAYOUT & DETAILS
xxxiv	DORMITORY COLUMN CENTER LINE LAYOUT & DETAIL

S No	DRAWING DETAILS
xxxv	DORMITORY FLOOR BEAM AND LAYOUT & DETAILS AT (+)3.60M LVL (TOB)
xxxvi	DORMITORY FLOOR SLAB LAYOUT & DETAILS AT (+)3.60M LVL (TOS)
xxxvii	DORMITORY STAIRCASE LAYOUT & DETAILS
xxxvii i	PARKING SECURITY CABIN - PILE, PILE CAP & TIE BEAM LAYOUT AND DETAILS (SHEET 1 OF 3)
xxxix	PARKING SECURITY CABIN - COLUMN & FLOOR BEAM LAYOUT AND DETAILS (SHEET 2 OF 3)
xxxx	PARKING SECURITY CABIN ROOF SLAB LAYOUT AND DETAILS (SHEET 3 OF 3)
10.2	SOLID WASTE MANAGEMENT (SWM)
i	SWM LAYOUT - Phase - 1
ii	SWM LAYOUT - Phase - 2
iii	SWM LAYOUT - Phase - 3
iv	GA FOR WASTE COLLECTION AND SEGREGATION UNIT
v	GA FOR SLURRY CHAMBER AND SLURRY TANK
vi	GA FOR PRIMARY AND SECONDARY ANAEROBIC PLANT DIGESTER
vii	GA FOR PURIFICATION UNIT SHED
viii	GA FOR STORAGE AND DISPENSING UNIT
ix	GA FOR NON BIO DEGRADABLE WASTE STORAGE SHED
x	STREETLIGHT LAYOUT FOR SWM - Phase-1
10.3	STEAM GENERATION
i	Steam Pipe Network

- i. The information and details given herein, in the architectural, structural drawings, preliminary soil investigation report and elsewhere in the tender documents is only indicative and for general information and guidance only. The Contractor and his associate, structural Design Consultant shall inspect the site of work and get familiar with the actual site conditions.

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- ii. The Employer shall not be responsible if soil is found to be of different character and properties during actual execution of work or testing of soil. The Employer shall not be responsible for the inaccuracy thereof or any interpretation or conclusion drawn from them by the contractor.
 - iii. The Contractor may carryout detailed soil investigation at his own cost if he considers so. No payment shall be made to him for this purpose. The Owner shall not bear any responsibility for the lack of such Data/ knowledge and also the consequences thereof to the contractor.
 - iv. Sheet piles/ Soldier piles and appurtenant materials shall be tested and certified to meet the specified chemical, mechanical and sectional properties requirement prior to delivery to site, as per relevant **IS code**.
 - v. Before execution of work, the Contractor shall submit the construction procedure/ Methodology and Specifications of Temporary Earth Retaining Structure from the structural consultant viz IIT/NIT/CBRI/NCBM and shall get approved from Engineer in Charge. The work of earth retaining structure shall be carried out strictly in accordance with the sequence, specifications, and procedure given in approved structural design & drawings and as per direction of Employer / Employers Engineer.

40 Schedule E: Project Completion Schedule

40.1 Project Completion Schedule for all works except WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery

During the Construction period, the Contractor shall comply with the requirements set forth in this Schedule E for each of the Project Milestones and the Scheduled Completion Date. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Employer of such compliance along with necessary particulars thereof.

40.1.1 Project Milestone-I

Project Milestone-I shall occur on the date falling on the **180th (One hundred and Eightieth)** day from the Appointed Date (the "Project Milestone-I").

Prior to the occurrence of Project Milestone-I, the Contractor shall complete all the designs for the entire Project work and shall have commenced Construction of the Project components (Roads, Drains, Bridge works, Building works, Truck Terminals, Entry gates, Boundary walls, Fencing works, Incubation centre and Other Civil works, Solid Waste Management (SWM), Wastewater Conveyance & Electrical works including Substations, OHT etc.) and submitted to the Employer duly and validly prepared Stage Payment Statements for an amount not less than **5% (five per cent) of the Contract Price** for these Components.

40.2 Project Milestone-II

Project Milestone-II shall occur on the date falling on the **365th. (Three hundred and sixty-fifth)** day from the Appointed Date (the "Project Milestone-II").

Prior to the occurrence of Project Milestone-II, the Contractor shall have continued with the Construction of the Project components (Roads, Drains, Bridge works, Building works, Truck Terminals, Entry gates, Boundary walls, Fencing works, Incubation centre and Other Civil works, Solid Waste Management (SWM), Wastewater Conveyance & Electrical works including Substations, OHT etc.) and submitted to the Employer duly and validly prepared Stage Payment Statements for an amount not less than **30% (Thirty per cent) of the Contract Price** for these Components.

40.2.1 Project Milestone-III

Project Milestone-III shall occur on the date falling on **the 550th (Five hundred and Fiftieth)** day from the Appointed Date (the "Project Milestone-III").

Prior to the occurrence of Project Milestone-III, the Contractor shall have continued with the Construction of the Project components ((Roads, Drains, Bridge works, Building works, Truck Terminals, Entry gates, Boundary walls, Fencing works, Incubation centre and Other Civil works, Solid Waste Management (SWM), Wastewater Conveyance & Electrical works including Substations, OHT etc.) and submitted to the Employer duly and validly prepared Stage Payment Statements for an amount **not less than 60% (Sixty per cent)** of the Contract Price.

40.2.2 Scheduled Completion Date

The Scheduled Completion Date shall occur on the **730th (Seven Hundred and Thirtieth)** day from the Appointed Date.

On or before the Scheduled Completion Date, the Contractor shall have completed Construction in accordance with this Agreement.

40.2.3 Extension of Time

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule including the Project milestones shall be deemed to have been amended accordingly.

40.3 Project Completion Schedule for WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery

During the Construction period for WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery, the Contractor shall comply with the requirements set forth in this Schedule-E for each of the Project Milestones and the Scheduled Completion Date. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Employer of such compliance along with necessary particulars thereof.

40.3.1 Project Milestone-I

Project Milestone-I shall occur on the date falling on the **180th (Three Hundred and Sixty Eightieth)** day from the Appointed Date (the "Project Milestone-I").

Prior to the occurrence of Project Milestone-I, the Contractor shall complete all the designs for WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery works and submit to the Employer duly and validly prepared Stage Payment Statements for an amount not **less than 3% (Three per cent)** of the Contract Price for WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery.

40.3.2 Project Milestone-II

Project Milestone-II shall occur on the date falling on the **365th (Three hundred Sixty Fiftieth)** day from the Appointed Date (the "Project Milestone-II").

Prior to the occurrence of Project Milestone-II, the Contractor shall have completed all civil works other than installation of Electromechanical works of WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery and submitted to the Employer duly and validly prepared Stage Payment Statements for an amount **not less than 30% (Thirty per cent)** of the Contract Price for WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery.

40.3.3 Project Milestone-III

Project Milestone-III shall occur on the date falling on the **550th (Five hundred Fiftieth)** day from the Appointed Date (the "Project Milestone-III").

Prior to the occurrence of Project Milestone-III, the Contractor shall have continued with the Installation of Electrical and Mechanical Systems and submitted to the Employer duly and validly prepared Stage Payment Statements for an amount **not less than 60% (Seventy-five per cent)** of the Contract Price for WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery.

40.3.4 Scheduled Completion Date



The Scheduled Completion Date shall occur on the **730th (Seven hundred and Thirtieth)** day from the Appointed Date.

On or before the Scheduled Completion Date, the Contractor shall have completed Construction including testing and commissioning in accordance with this Agreement.

41 Schedule F: Tests on Completion

41.1 Schedule for Tests

- 41.1.1** The Contractor shall, no later than 30 (thirty) days prior to the likely completion of Construction, notify the Employer's Engineer and the Employer of its intent to subject the Project components (roads and utilities/services) to Tests, and no later than 10 (ten) days prior to the actual date of Tests, furnish to the Employer's Engineer and the Employer detailed inventory and particulars of all Works and equipment forming part of Works.
- 41.1.2** The Contractor shall notify the Employer's Engineer of its readiness to subject the Project components (Roads, Drains, Bridge works, Building works, Truck Terminals, Entry gates, Boundary walls, Fencing works, Incubation centre and Other Civil & Electrical works including Substations, OHT etc.) to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Employer's Engineer shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Employer who may designate its representative to witness the Tests. The Employer's Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Section 19 and this Schedule.

41.2 Tests

- 41.2.1** Visual and physical test: The Employer's Engineer shall conduct a visual and physical check of Construction to determine that all Works and equipment forming part thereof conform to the provisions of this Agreement.
- 41.2.2** Riding quality test: The riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator and the maximum permissible roughness for purposes of this Test shall be 1800 (Eighteen Hundred) mm for each kilometer or as specified in Volume II.
- 41.2.3** Tests for bridges: All major and minor bridges shall be subjected to the rebound hammer and ultrasonic pulse velocity Tests, to be conducted in accordance with the procedure described in Special Report No. 17: 1996 of the IRC Highway Research Board on Non-destructive Testing Techniques, at two spots in every span, to be chosen at random by the Employer's Engineer. Bridges with a span of 15 (fifteen) meters or more shall also be subjected to load testing.
- 41.2.4** Water Tightness test: All hydraulic components, such as water supply network, recycled water network, CETP network, Wastewater Conveyance network or any other liquid containers shall have to be tested for water tightness. The water tightness test shall be conducted as specified in IS: 4127-1967.
- 41.2.5** Water Tightness test for Manhole: The entire height of the manhole shall be tested for water tightness as per the CPHEEO Manual, by closing both the incoming and outgoing ends of the sewer and filling the manhole with water and the drop in water level no more than 50 mm per 24 hours shall be permitted.

- 41.2.6** Hydraulic Test: Fill the pipeline with water after it has been laid; bleed off any trapped air. Subject the lowest element in the system to a test pressure that is 1.5 times the design pressure and check for any leakage. When, in the opinion of the engineer, local conditions require that the trenches be backfilled immediately after the pipe has been laid, apply the pressure test after backfilling has been completed but not sooner than a time which will allow sufficient curing of any concrete that may have been used. Typical minimum concrete curing times are 36 hours for early strengths and 7 days for normal strengths.
- 41.2.7** Water Tightness test for ESR: The Contractor shall be fully responsible for the water tightness of the tank; the tank shall be taken as watertight of the depression in water level after filling the tank of full supply level not more than 12.20 mm in 24 Hrs and no leakages are observed.
- 41.2.8** Other Tests: The Employer's Engineer may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project components (roads and utilities/services) with Standards and Specifications.
- 41.2.9** Environmental audit: The Employer's Engineer shall carry out a check to determine conformity of the Project components (roads and utilities/services) with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 41.2.10** Safety Audit: The Employer's Engineer shall carry out, or cause to be carried out, a safety audit to determine conformity of the Project components (roads and utilities/services) with the safety requirements and Good Industry Practice.
- 41.2.11** Visual and physical test for Street lighting covering pole, luminaire, power supply, grounding, communication between luminaire to control panel and central control system.
- 41.2.12** Installation testing including lighting performance verification.
- 41.2.13** All of the electrical equipment covered by this report shall be tested in accordance with all relevant design and installation standards and codes of practice. Routine and Type test reports shall be required as a minimum. The Contractor shall notify the engineer, in writing, when each Section of work is complete and the whole of the work is completed. Each Section of the work and the whole of the work shall be tested in accordance with all relevant design and installation standards and codes of practice.

41.3 Testing

- 41.3.1** This Sub-Clause shall apply to all tests on Plant, Materials and workmanship specified in the Contract.
- 41.3.2** The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Employer's Engineer, the time and place for the specified testing of any Plant, Materials, and other parts of the Works.

- 41.3.3** The Employer's Engineer may vary the location or details of specified tests or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials, or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract. Any additional test as described by Employer's Engineer shall be done by the Contractor at no extra cost to the Employer.
- 41.3.4** The Employer's Engineer shall give Notice to the Contractor not less than 24 hours prior to the tests, of the Employer's Engineer intention to attend the tests. If the Employer's Engineer does not attend at the time and place agreed the Contractor may proceed with the tests unless otherwise instructed by the Employer's Engineer, and the tests shall then be deemed to have been made in the Employer's Engineer's presence.
- 41.3.5** The Contractor shall promptly forward to the Employer's Engineer duly certified reports of the tests. When the specified tests have been passed, the Employer's Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Employer's Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.
- 41.3.6** The Contractor shall carry out the Tests on Completion of Construction period in accordance with this Clause.
- 41.3.7** The Contractor shall give Notice to the Employer's Engineer not less than 21 days prior to the date after which the Contractor will be ready to carry out each of the Tests on Completion of the Construction period. Unless otherwise agreed, Tests on Completion of the Construction period shall be carried out within 14 days after this date, on such day or days as the Employer's Engineer shall instruct.
- 41.3.8** Unless otherwise stated, the Tests on Completion of the Construction period shall be carried out in the following sequence and are further detailed in the Employer's Requirements:
- 41.3.9** Pre-commissioning tests, which shall include the appropriate inspections and ("dry" or "wet") functional tests to demonstrate that each item of Plant can safely undertake the next stage, (b); commissioning tests, which shall include the specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions; and trial operation, which shall demonstrate that the Works or Section perform reliably and in accordance with the Contract.
- 41.3.10** The Employer shall be the sole beneficiary of any revenue or benefit resulting from the Tests on Completion of the Construction period.
- 41.3.11** During the trial operation, when the Works are operating under stable conditions, the Contractor shall give Notice to the Employer's Engineer that the Works are ready for any other Tests on Completion of the Construction period, including performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and with the Schedule of Guarantees.

- 41.3.12** Trial operation shall not constitute a commencement of the Operation Service. The O&M Contractor appointed by the Employer through a separate bidding process shall start Operations and Maintenance after the issue of the Completion Certificate
- 41.3.13** In considering the results of the Tests on Completion of the Construction period, the Employer's Engineer shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed each of the Tests on Completion of Construction period described in the above sub- paragraph, the Contractor shall submit a report certified by the Contractor of the results of these Tests to the Employer's Engineer.
- 41.3.14** If the Tests on Completion of Construction period are being unduly delayed by the Contractor, the Employers Engineer may by Notice require the Contractor to carry out such Tests within 21 days after receiving the Notice. The Contractor shall carry out such Tests on the day or days within that period as the Contractor may fix and of which he shall give Notice to the Employer's Engineer.
- 41.3.15** If the Contractor fails to carry out the Tests on Completion of the Construction period within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.
- 41.3.16** If the Tests on Completion of Construction period are being unduly delayed by the Employer, an extension of time shall be provided by the Employer for such delay, if the completion is or will be delayed.

41.4 Retesting of the Works

- 41.4.1** If the Works, or a Section, fail to pass the Tests on Completion of Construction period, and the Employer's Engineer or the Contractor may require the failed Tests, and Tests on Completion of Construction period on any related work, to be repeated under the same terms and conditions.
- 41.4.2** Failure to Pass Tests on Completion of the Construction period.
- 41.4.3** If the Works, or a Section, fail to pass the Tests on Completion of Construction period repeated under the above Sub-Clause (Retesting of the Works) the Employer's Engineer shall be entitled to: order further repetition of tests on Completion of Construction period under Sub-Clause (Retesting of the Works); or If the Contractor fails to carry out any obligation under the Contract, the Employer's Engineer shall by Notice require the Contractor to make good the failure and to remedy it within the time specified in the said Notice.

41.5 Completion Certificate

- 41.5.1** Upon successful completion of Tests, the Employer's Engineer shall issue the Completion Certificate in accordance with the provisions of Section 19.

42 Schedule G: Substantial Completion Certificate and Completion Certificate for Construction Works

42.1 Substantial Completion Certificate

I, (Name of the Employer’s Engineer), acting as Employer’s Engineer, under and in accordance with the Agreement dated (the “Agreement”), for **Design, Construction, Testing, Commissioning**, as per the scope defined for the development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh “on EPC Basis”, Contract through (Name of Contractor), hereby certify that the Tests in accordance with Section 19 of the Agreement have been undertaken to determine compliance of the Project with the provisions of the Agreement.

1. Construction Works that are incomplete on account of Time Extension have been specified in the Punch List appended hereto, and the Contractor has agreed and accepted that it shall complete all such Works in the time and manner set forth in the Agreement. In addition, certain minor Works are incomplete, and these are not likely to cause Material inconvenience to the users of the Project. or other their safety. The Contractor has agreed and accepted that as a condition of this Substantial Completion Certificate, it shall complete such minor Works within 30 (thirty) days hereof. These minor Works have also been specified in the aforesaid Punch List.
2. In view of the foregoing, I am satisfied that that Project can be safely and reliably placed in service of the users thereof, and in terms of the Agreement, the Project is hereby provisionally declared fit for entry into operation on this theday of20

ACCEPTED, SIGNED, SEALED
DELIVERED

SIGNED, SEALED AND DELIVERED AND

For and on behalf of

For and on behalf of

Contractor By

Employer’s Engineer by:

(Signature)

(Signature)



42.2 Completion Certificate for Construction Works

I,.....(Name of the Employer’s Engineer), acting as Employer’s Engineer, under and in accordance with the Agreement dated.....(the “Agreement”), for **Design, Construction, Testing, Commissioning**, as per the scope defined for the development of Bulk Drug Park at Nakkapalli, Anakkapalli District, Andhra Pradesh “on EPC Basis”, through (Name of Contractor), hereby certify that.

the Tests in accordance with Section 19 of the Agreement have been successfully undertaken to determine compliance of the Project with the provisions of the Agreement, and I am satisfied that the Projectcan be safely and reliably placed in service of the Users.

thereof.

It is certified that, in terms of the aforesaid Agreement, all Works forming part of Project Works have been completed, and the Project Works is hereby declared fit for entry into operation on this the..... day of20

SIGNED, SEALED AND DELIVERED For and on behalf of

Employer’s Engineer by:

(Signature) (Name) (Designation)(Address)



43 Schedule H: Payment Reduction for Non-Compliance

43.1 Payment reduction for non-compliance with the Maintenance Requirements except for Treatment Plants

Deleted

43.2 Penalties for Treatment Plants (WTP, RO & EDI Plant, CETP Including Marine Outfall, Steam generation & distribution, Common Solvent Recovery)

Deleted

43.3 Guarantee Form 1: Related to Penalties for WTP and RO & EDI Plant during Performance testing.

Deleted

43.4 Guarantee form 2: Related to Penalties for Steam generation & Solvent recovery & Distribution during Performance testing.

Deleted

43.5 Guarantee form 3: Related to Penalties for CETP including Marine Outfall during Performance testing

Deleted

44 Schedule I: Selection of Employer's Engineer

44.1 Selection of Employer's Engineer

44.1.1 The provisions of the Model Request for Proposal for Selection of Technical Consultants, issued by the Ministry of Finance in May 2009, or any substitute thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Employer's Engineer. PMC has been entrusted with the role of independent Employer's Engineer.

To assist in due discharge of Employer obligation, the Authority has appointed Project Management Consultant (PMC). The PMC will be responsible for conceptualization of Projects and further, during the design and Construction stage, overseeing the work of contractors, including reviewing, monitoring, resolution of interface issues, and reporting to the Employer/Engineer-In-Charge on the Project progress. All communications relating to contract management on this Project shall be submitted through PMC to the Engineer-In charge for final approval of Authority. Engineer-In charge will act as a Employer's representative and PMC assist with end to end support in carrying out review of preconstruction activities, construction supervision, progress monitoring, quality control, testing, test check of invoices, resolution of claims, change in design, taking over and safety management for all contracts and post construction supervision of contractors work. As such, the Engineer-in-Charge of the Employer is vested with all such powers and responsibilities as are entrusted with the Employer's Engineer and is fully competent to issue any instructions for proper monitoring and supervision of the project and the agreement, either by himself (including his authorised person) or through the Employer's Engineer. Instructions issued by the Engineer-in-Charge of the Authority shall have the same effect as that of the Employer's Engineer in terms of this Agreement. Wherever such Engineer-in-Charge issues any instructions or notice to the Contractor, he shall endorse a copy thereof to the Employer's Engineer.

44.1.2 In the event of the Termination of the Technical Consultants appointed in accordance with the provisions of Paragraph 44.1.1, the Employer shall appoint another firm of Technical Consultants forthwith and may engage a Government-owned entity in accordance with the provisions of Section 44.3 of this Schedule-I.

44.2 Terms of Reference

The Terms of Reference for the Employer's Engineer (the "TOR") shall substantially conform with the conditions as below:

1. Scope

- i. These Terms of Reference (the "TOR") for the Employer's Engineer are being specified pursuant to the EPC Agreement dated..... (the "Agreement), which has been entered into between the Name of Employer (the "Employer") and (the "Contractor") **for Design, Construction, Testing, Commissioning**, as per the scope defined for the development of Bulk Drug Park at Nakkapalli, Anakapalli District, Andhra Pradesh "on EPC Basis", and a copy of which is annexed hereto and to form part of this TOR.
- ii. The TOR shall apply to the Design, Construction and Maintenance of the Project Roads and Services

2. Definitions and interpretation



- i. The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.
- ii. References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.
- iii. The rules of interpretation stated in Clauses 8.2, 8.3 and 8.4 of the Agreement shall apply, mutatis mutandis, to this TOR.

3. General

- i. The Employer's Engineer shall discharge its duties in a fair, impartial, and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.
- ii. The Employer's Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Employer /PMC before determining:
 - iii. any time extension;
 - iv. any additional cost to be paid by the Employer to the Contractor;
 - v. the Termination Payment;
- vi. The Employer's Engineer shall submit regular periodic reports, at least once every month, to the Employer in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Employer's Engineer within 10 (ten) days of the beginning of every month.
- vii. The Employer's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel provided, however, that it shall not delegate the authority to refer any matter for the Employer's prior approval in accordance with the provisions of Clause 25.2.
- viii. The Employer's Engineer shall aid and advise the Employer on any proposal for a Change of Scope under Section 20.
- ix. In the event of any disagreement between the Parties regarding the meaning, scope, and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Employer's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4. Construction Period

- i. During the Construction Period, the Employer's Engineer shall review the Reports, Designs and Drawings furnished by the Contractor along with supporting data, including the geotechnical and hydrological investigations, characteristics of Materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 17.1.10. The Employer's Engineer shall complete such review and send its observations to the Employer and the Contractor within 21 (twenty-one) days of receipt of such Reports, Designs and Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.
- ii. The Employer's Engineer shall review any revised Reports, Designs and Drawings sent to it by the



- Contractor and furnish its comments within 10 (ten) days of receiving such Reports, Designs and Drawings.
- iii. The Employer's Engineer shall review the (a) Quality Assurance Plan (b) Health, Safety and Environmental Management Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty-one) days stating the modifications, if any, required thereto. The Employer's Engineer shall ensure the Contractor's Project Management requirements, BIM, and CAD requirements regularly on a monthly basis to the Employer.
 - iv. The Employer's Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works and convey its comments to the Contractor within a period of 21 (twenty-one) days from the date of receipt of the proposed methodology from the Contractor.
 - v. The Employer's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Employer and the Contractor within 7 (seven) days of receipt of such report.
 - vi. The Employer's Engineer shall inspect the Construction Works and the Project Roads and shall submit a Monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. In particular, the Employer's Engineer shall include in its Inspection report, the compliance of the recommendations made by the Safety Consultant.
 - vii. The Employer's Engineer shall conduct the pre-Construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Employer's Engineer may require.
 - viii. For determining that the Works conform to Specifications and Standards, the Employer's Engineer shall require the Contractor to carry out, or cause to be carried out, Tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph, the Tests specified in the relevant Codes or any modification/substitution thereof and standards shall be deemed to be Tests conforming to Good Industry Practice for quality assurance.
 - ix. The Employer's Engineer shall test check at least 20 (twenty) per cent of the quantity or number of Tests prescribed for each category or type of test for quality control by the Contractor.
 - x. The timing of Tests referred to in bullet viii and the criteria for acceptance/ rejection of their results shall be determined by the Employer's Engineer in accordance with the Quality Control Manuals and/or the relevant Codes and Standards. The Tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the Tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.
 - xi. In the event that the results of any Tests conducted under Clause 18.10 establish any Defects or deficiencies in the Works, the Employer's Engineer shall require the Contractor to carry out remedial measures.
 - xii. The Employer's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Project Works, whether because of an accident, unforeseen event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 28.6 shall apply.
 - xiii. In the event that the Contractor fails to achieve any of the Project Milestones, the Employer's Engineer shall undertake a review of the progress of Construction and identify potential delays, if any. If the

Employer's Engineer shall determine that completion of the Project Works is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Employer's Engineer shall review the same and send its comments to the Employer and the Contractor forthwith.

- xiv. The Employer's Engineer shall obtain from the Contractor two copies of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 19.4.
- xv. Employer's Engineer may recommend to the Employer, the Suspension of the whole or part of the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measures, the Employer's Engineer shall inspect such remedial measures forthwith and make a report to the Employer recommending whether or not the Suspension hereunder may be revoked.
- xvi. In the event that the Contractor carries out any remedial measures to secure the safety of suspended Works and Users, and requires the Employer's Engineer to inspect such Works, the Employer's Engineer shall inspect the suspended Works within 3 (three) business days of receiving such notice, and make a report to the Employer forthwith, recommending whether or not such Suspension may be revoked by the Employer.
- xvii. The Employer's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-F and issue a Completion Certificate or Substantial Completion Certificate, as the case may be. For carrying out its functions under this Paragraph and all matters incidental thereto, the Employer's Engineer shall act under and in accordance with the provisions of Section 19 and Schedule F.

5. Maintenance Period

- i. The Employer's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with the Contractor.
- ii. The Employer's Engineer shall undertake regular inspections, at least once every month, to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Employer and the Contractor.
- iii. The Employer's Engineer shall specify the Tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the Project Works is in conformity with the Maintenance Requirements. It shall monitor and review the results of such Tests and the remedial measures, if any, taken by the Contractor on this behalf.
- iv. In respect of any Defect or deficiency referred to in Paragraph 3 of Schedule-Q, the Employer's Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.
- v. The Employer's Engineer shall examine the request of the Contractor for closure of any lane(s)/utilities lines of the Project Roads and/or Services for undertaking Maintenance/repair thereof and shall grant permission with such modifications, as it may deem necessary, within 5 (five) days of receiving a request from the Contractor. Upon expiry of the permitted period of closure, the Employer's Engineer shall monitor the reopening of such lane(s), and in case of delay, determine the Damages payable by the Contractor to the Employer under Clause 21.5.

6. Determination of costs and time



- vi. The Employer's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.
- vii. The Employer's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.
- viii. The Employer's Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 25.5.

7. Payments

- i. The Employer's Engineer shall withhold payments for the affected Works for which the Contractor fails to revise and resubmit the Drawings to the Employer's Engineer in accordance with the provisions of Clause 17.2.4(d).
- ii. Employer's Engineer shall -
 - a) within 15 (Fifteen) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 26.4, determine the amount due to the Contractor and recommend the release of the amount so determined as stage payment, pending issue of the Interim Payment Certificate; and
 - b) within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 26.4, deliver to the Employer and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor, after adjustments in accordance with the provisions of Clause 26.10.
- iii. The Employer's Engineer shall, within 15 (fifteen) days of receipt of the Quarterly Maintenance Statement from the Contractor pursuant to Clause 26.6, verify the Contractor's statement and certify the amount to be paid to the Contractor in accordance with the provisions of the Agreement.
- iv. The Employer's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 26.16.

8. Other duties and functions

The Employer's Engineer shall perform all other duties and functions as specified in the Agreement.

9. Miscellaneous

- i. A copy of all communications, comments, instructions, Drawings or Documents sent by the Employer's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Employer's Engineer thereon, shall be furnished by the Employer's Engineer to the Employer forthwith.
- ii. The Employer's Engineer shall retain at least one copy of each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.
- iii. Within 30 (thirty) days of the Project Completion Date for construction works, the Employer's Engineer shall obtain from Contractor a complete set of as-built Drawings, in 5 (five) hard copies and in microfilm form or in such other medium as may be acceptable to the Employer, reflecting the Project
- iv.Facilities..... as actually designed, engineered, and constructed, including an as-built survey illustrating the layout of the Project Works and setback lines, if any, of the buildings and Structures forming part of Project Facilities; and shall hand them over to the Employer against receipt thereof.
- v. The Employer's Engineer, if called upon by the Employer or the Contractor or both, shall mediate and

assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.

- vi. The Employer's Engineer shall inform the Employer and the Contractor of any event of the Contractor's Default within one week of its occurrence.
- vii. The Employer's Engineer, if called upon by the Employer, shall attend the meetings on Project reviews, and discussions to be held at Employer's office with required reports and presentations.

44.3 Appointment of Government entity as Employer's Engineer

Notwithstanding anything to the contrary contained in this Schedule, the Employer may in its discretion appoint a Government-owned entity as the Employer's Engineer; provided that such entity shall be a body corporate having as one of its primary functions the provision of consulting, advisory and supervisory services for engineering Projects; provided further that a Government-owned entity which is owned or controlled by the Employer shall not be eligible for appointment as Employer's Engineer.

45 Schedule J: Forms of Payment Statements

45.1 Stage Payment Statement for Works

The Stage Payment Statement for Works shall state:

- a. The estimated amount for the Works executed in accordance with Clause 26.3.1 subsequent to the last claim; The payment for connections for all utilities including water, wastewater, sewerage, recycled water, power, and stormwater shall be paid on the actual number of connections as executed;
- b. Amounts reflecting adjustments in price for the aforesaid claim;
- c. The estimated amount of each Change of Scope Order executed subsequent to the last claim;
- d. Amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 20.2.3 (a);
- e. Total of (a), (b), (c) and (d) above;
- f. Deductions:
 - i. Any amount to be deducted in accordance with the provisions of the Agreement except Taxes;
 - ii. Any amount towards deduction of Taxes; and
 - iii. Total of (i) and (ii) above. Net claim: (e) – (f);
- g. The amounts received by the Contractor up to the last claim:
 - iv. For the Works executed (excluding Change of Scope orders);
 - v. For Change of Scope Orders, and
 - vi. Any deductions
 - vii. Taxes deducted

45.2 Quarterly Maintenance Payment Statement

- a) O&M not applicable

45.3 Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Employer / Employer's Engineer.

46 Schedule K: Insurance

46.1 Insurance during the Construction Period

46.1.1 The Contractor shall affect and maintain at its own cost, from the Appointed Date till the date of issue of the Project Completion cum Taking Over Certificate or last as specified, the following insurances for any loss or damage occurring on account of Non-Political Event of Force Majeure, malicious act, accidental damage, explosion, fire, and terrorism:

- a) Insurance of Works, Plant and Materials and an additional sum of [15 (fifteen)] per cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and
- b) Insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.
- c) The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the last Completion Certificate and during the Defect Liability Period from the issue of the completion certificate, the following insurances for any loss or damage occurring on account of Non-Political Event of Force Majeure, malicious act, accidental damage, explosion, fire, terrorism and War and Riots Protection Insurance
- d) The Contractor shall maintain Third Party Motor Vehicle Liability Insurance for all the vehicles deployed on site for the use of the Contractor/Employer/Employer's Engineer.

46.1.2 The insurance under paragraph 46.1.1 (a) and (b) above shall cover the Employer and the Contractor against all loss or damage from whatsoever cause arising under paragraph 46.1.1 other than risks which are not insurable at commercial terms.

46.1.3 "All risks of loss including theft of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the Exceptional Risks are the responsibility of the Contractor. Any loss not insured or not recovered (including policy excesses etc.) from insurers shall be borne by the Contractor. All insurances shall be in the joint name of the Contractor and the Employer (wherever applicable). The contract shall maintain a Contractor All Risk Policy (CAR) for the entire duration of the contract for the entire facility" The Contractor shall also take additional covers (Add-On covers) insurance like Third Party Liability, Surrounding properties, Clearance and Removal of debris, Cross liability, Express Freight, Extended Maintenance Cover up to Final Takeover, etc. The sum insured for such Add-On covers shall be decided by the Contractor based on his assessment and the risk involved in the contract. Risks to be covered by insurance shall not be limited merely to the items mentioned above. The Contractor shall arrange for insurance of any other risks he may deem prudent, but the expenses thereof shall be to the account of the Contractor only. If necessary, Plant and Machinery Transit and storage (all risks) insurance coverage for additional transit involved for sending equipment/material to Sub-Contractor/Fabricator's shop for fabrication/ reprocessing and receiving back at the site shall be taken.

46.2 Insurance for Contractor's Defects Liability



The Contractor shall affect and maintain Insurance Cover for the Works from the date of issue of the Completion Certificate for construction works until the end of the Defects Liability Period whichever is greater for any loss or damage for which the Contractor is liable and arises from a cause occurring prior to the issue of Project Completion cum Taking Over Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

46.3 Insurance against injury to persons and damage to property

46.3.1 The Contractor shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Paragraphs 1 and 2 of this Schedule or to any person (except persons insured under Clause 26.9), which may arise out of the Contractor's performance of this Agreement and occurring before the issue of the Performance Certificate. This insurance shall be for a limit per occurrence of not less than the amount stated below with no limit on the number of occurrences. The Insurance Cover shall be not less than Rs. 20 Lakhs per occurrence and unlimited in the aggregate.

46.3.2 The insurance shall be extended to cover liability for all loss and damage to the Employer's property arising out of the Contractor's performance of this Agreement excluding:

- a) the Employer's right to have the Construction Works executed on, over, under, in or through any land, and to occupy this land for the Works; and
- b) Damage which is an unavoidable result of the Contractor's obligations to execute the Works.

46.4 Insurance to be in joint names.

The insurance under this section 46 shall be in the joint names of the Contractor and the Employer (wherever applicable).

47 Schedule L: BIM / REVIT / TEKLA Model and CAD Requirements

47.1 Objective

- The Employer mandates the use of an advanced computer-based dynamic 4D-model-driven approach for the detailed planning, design, engineering, Construction, and operation of the Nakkapalli node to allow simulation, visualization and engineering analysis of all transportation, utility, building, civil Works and geospatial infrastructures.
- This includes an aggregate dynamic 4D Building Information Model (BIM) for the city infrastructure systems with 4D building models, 3D civil infrastructures, 3D models for roads and underground and above-ground utility systems participating.
- 4D infrastructure modelling tools shall be used to develop and produce Project models and simulations (e.g. in case of natural calamity etc.) as required for submittals.
- The 4D infrastructure Information Models are to be used throughout the design, Construction and operational life cycle of the asset, including but not limited to system collision detections, Materials quantification, Construction sequencing and carbon impact analysis.
- 4D infrastructure models use shall be maximized for Project reviews, decision support, design analysis, and quality assurance during all phases of this program.

47.2 General

47.2.1 Purpose

- 1) The purpose of the 4D Building Information Modelling (BIM) requirements describes the use of computer-aided design (CAD), geographical information systems (GIS) and building information modelling (BIM) for the work under the Contract.
- 2) These requirements shall be used as a reference for the Contractor under this Agreement to develop a specific Work Package BIM Execution Plan (BEP) that shall detail the specific CAD/GIS/BIM software used within the Work Package to control the specific BIM and CAD process. The outputs from this process will be Drawings and 3D models as PDFs that will be input to the Project Management Information System.
- 3) BEPs establish the methodology for managing the production, distribution and quality of the design information generated by CAD, GIS, and BIM systems, using a disciplined process for collaboration and a specified file and model naming policy.
 - BIM Project Execution Plan Overview Information: Document the reason for creating the Project Execution Plan.
 - Project Information: The Plan should include critical Project information such as Project numbers, Project location, Project description, and critical schedule dates for future reference.
 - Key Project Contacts: As part of the reference information, A BIM Plan should include contact information for key Project personnel.
 - Project Goals / BIM Objectives: This Section should document the strategic value and specific uses

for BIM on the Project as defined by the Project team in the initial step of the planning procedure.

- **Organizational Roles and Staffing:** One of the primary tasks is to define the coordinator(s) of the BIM planning and execution process throughout the various stages of the Project. This is particularly important when identifying the organization(s) that will initiate the development of the BIM Plan, as well as the required staff to successfully implement the plan.
- **BIM Process Design:** This Section should clearly illustrate the execution process through the use of process maps which are developed in the second step of the planning procedure.
- **BIM Information Exchanges:** The model elements and level of detail required to implement each BIM use should be clearly defined in the information exchange requirements.
- **BIM and Facility Data Requirements:** The owner's requirements for BIM must be documented and understood.
- **Monthly "3D/4D Model review"** shall be conducted by the EPC Contractor along with the Employer/PMC to explain the layout and make suggestions to be incorporated in the model. Cloud/Server based user access is to be provided to Employer/PMC to review the 3D/4D models prepared by the Contractor.
- **Collaboration Procedures:** The team should develop their electronic and collaboration activity procedures. This includes the definition of model management procedures (e.g., file structures, and file permissions) as well as typical meeting schedules and agendas.
- **Model Quality Control Procedures:** A procedure for ensuring that the Project participants meet the defined requirements should be developed and monitored throughout the Project.
- **Technology Infrastructure Needs:** The hardware, software and network infrastructure required to execute the plan should be defined.
- **Model Structure:** The team should discuss and document items such as model structure, file naming structure, coordinate system, and modelling standards.
- **Project Deliverables:** The team should document the deliverables required by the owner.
- **Delivery Strategy / Contracts:** This Section should define the delivery strategy which will be used on theProject.

47.2.2 Scope

- 1) This BIM requirement document outlines the roles and responsibilities that are necessary for a successful collaborative 4D Building Information Modelling (BIM) approach.
- 2) The Project Management Information System (PMIS) and Common Data Environment (CDE) will be mandated for the structure and the controlled sharing of the building information with known provenance and status in a multi-disciplinary environment.
- 3) **BIM Uses:** BIM uses that have been established as required thus far are:

BIM Uses	Description/Comments
Existing Conditions Modelling	This will require the gathering of existing conditions information from a range of sources, and validating the quality, accuracy, and reliability of that information for use on the Project. The physical extent of what is needed to be modelled is to be determined, based on location, physical/spatial/visual relationship, and potential impact on the Project. Areas or elements identified as posing a risk to the Project should be communicated clearly to inform future risk mitigation efforts. In the absence of anything better, a default standard will be used to achieve this.
Site Analysis	The Site context should be understood thoroughly and acknowledged within the design, accounting for factors that may impact on siting/position of proposed Construction Works, such as interfaces with existing structures or services, vistas, nearby land use, hydraulic analysis, geo-tech and topographic conditions, Site access/egress issues, traffic flows, other infrastructure and so on.
Design Authoring	A process in which software is used to develop a Building Information Model based on criteria important to the communication of the building's design. Two types of software applications are core to the BIM-based design process: design authoring tools and audit and analysis tools. Authoring tools are used to create models while audit and analysis tools draw from or enhance the richness of information in a model. Most audit and analysis tools can be used for Design Reviews and Engineering Analysis BIM Uses. Design authoring tools are required in the first instance, and employ a powerful database of properties, quantities, means and methods, costs, and schedules.
Design Visualization	The BIM can be used to generate rendered images, animated fly-throughs and read-only versions of the model as requested by the Employer (with due notice) to support effective communication of the design intent of the building. This is critical for stakeholder engagement at a number of levels and Project stages.
Interference Detection	General coordination will take place during early design via visual inspection and design coordination Workshops. In particular, coordination efforts will be applied to key pinch points, such as cores, risers, plenum spaces, and Plant areas. Aggregation/intensity of interferences detected will further inform priority zones and element types. Late in the design process, and particularly for Preconstruction planning (during the early Construction stage), interference severity criteria will be defined, and interference rules configured that will support element-level coordination. Good interference rule definitions will be key to avoiding 'false positives' and ensuring efforts are spent on eliminating real issues.

BIM Uses	Description/Comments
Design Review	A process in which stakeholders interrogate and interact with a 3D model to validate various design criteria. These may include evaluating the ability to meet the program, previewing spatial or visual relationships in a virtual environment, layout, sightlines, lighting, security, ergonomics, acoustics, textures and colours, etc. This BIM use can be achieved with the BIM software, a computer and display, and someone to 'drive' the model.
Planning of Construction Scheduling and Sequencing	This focuses on planning or staging and sequencing of major Works, predominantly for stakeholder communication and buy-in, in order to demonstrate that the design is buildable. The Contractor shall adhere to Employers preferred systems on the Construction methodology to be employed, would be responsible for modelling, and communicating this as part of their work. Typically, this is something that engineers are able to provide (as part of validating design approach), though, for actual Works by the Contractor, the Contractor will be responsible.
Record Modelling	This entails updating the Project federated model to represent an as-built record of the as- constructed Works. The basis for the model updates is currently sketches and other records provided by the Contractor to the design team during Construction. The precise level and method of field verification that is to occur is yet to be determined.

4) Definitions

5) The following terms are specific to the BIM requirements:

- 4D Building Information Modelling and Management (BIM): The managed approach to the collection and exploitation of information across the life cycle of a built environment asset. At its heart are computer- generated 3D and 2D models containing all graphical and tabular information about the design, Construction, and operation of the asset.
- BIM Execution Plan (BEP): The BIM Execution Plan (BEP) is to be submitted to address the issues raised in the EIR and then with more detail post-contract award to explain the Contractor's methodology for delivering the Project using BIM.
- BS1192: Collaborative production of architectural, engineering and Construction information. Code of practice.
- Project Management Information System (PMIS): A Common data environment (CDE) — a single source of engineering information for the Project. It is used to collect, manage, and disseminate all relevant approved Project documents.
- ECM (Engineering Content Management): Set of hardware/software and processes that control the engineering content of CAD models and Drawings together with their versions within the constraints of the PMIS.
- Geospatial System: Name or description of the system of spatial referencing by coordinates used for

geographical information.

- COBIE: Construction-Operations Building Information Exchange – a standard spreadsheet data format that controls the transition of as-built data into operations and Maintenance.
- Uniclass: Unified classifications for the Construction industry.
- Workspace: A predefined folder structure containing configuration and content relevant to the specific application.
- Master Document Index (MDI): A list of agreed model files and Drawing deliverables produced by the Contractor against agreed milestones.
- 2D/3D Model: A design model with entities having two/three/four-dimensional properties which are coordinated to the agreed geospatial reference system.
- Model composite: A model file containing multiple references of 2D/3D models coordinated using a common geospatial reference system to form a complete model representation of the information.
- Model extraction: A 2D model file containing elements generated from an external 3D model, usually in the form of sections, elevations, and plans. Can contain graphical or non-graphical content.
- Model files (MD2/MD3): Native CAD files that can be in the form of a 2D or 3D model.
- Model rendition (MDR): Output from a model file, model renditions provide static 'snap-shots' in a form that enables the information to be viewed, printed, and marked up.
- Output file: A generated rendition of graphical or non-graphical information (a plan, section, elevation, schedule, table, or other view of a Project).
- Model view: The view within CAD files which contains entities or reference files using real-world coordinates.
- Originator: The author of models, Drawings, and documents.
- Production Drawing: An immutable electronic plot (PDF) produced from a Drawing definition, having received all necessary reviews prior to issue.
- Zone: A manageable spatial 2D or 3D subdivision of a model allowing more than one person to work on the model, floor plan or staircase etc. at a time. Each zone is a reference file and when all references are viewed in a 'model composite' the full model shall be represented.
- Status: Defines the 'fitness' of information in a model, Drawing or document
- WIP: Work In Progress: each individual company or discipline's own work. This is information that has not been issued or shared with other Parties. Refer to BS1192.
- Shared: Information that has been reviewed and is available to other Parties. Refer to BS1192.
- Published: Documents and other data outputted from Shared information. Typically this shall include contract Drawings, reports and specifications but can also include information for data exchange between BIM software, such as LandXML, and IFC files. Refer to BS1192.
- Component: An individual building element that can be reused. Examples include doors, stair cores,

furniture or internal room layouts, facade panels, etc. Components are typically inserted and moved/rotated into the required position.

- **Assembly:** A composition or collection of components and/or modelled elements arranged to define part or all of a building model, structure, or site. An Assembly typically contains information that can be referenced without repositioning.
- **Container:** An optional 'parent' repository which can be used to compile assemblies and components for specific purposes including export and publication. A Container can exist for each individual profession/discipline or for multiple disciplines, for buildings or for a complete Project.
- **Layer/Level:** Attribute is given to entities within CAD files that enable their visibility to be controlled. Further values may be assigned to the attribute to control whether it can be edited or deleted.
- **IFC:** Industry Foundation Class is a neutral and open specification file format. The data model facilitates interoperability between object-based software platforms.
- **LandXML:** LandXML is a specialized XML data file format containing civil engineering and survey measurement data commonly used in the Land Development and Transportation Industries.

6) Responsibility

The Design and Build Contractor shall provide:

- A structured BIM approach to the production of all required design and as-built data and information for these Works under the Contract modelled on BS1192 Collaborative production of architectural, engineering and Construction information; Code of practice;
- Evidence that an all-discipline integration, coordination, and resolution process has taken place in a collaborative 3D object orientated CDE, the outputs of which meet or better the Employer's Requirements;
- A uniform and interoperable software/hardware platform across the entire Work Package, in that any software used shall be consistent with the principles of the sharing of multi-disciplinary object data in a CDE; That data shall include geometry and object attributes; Compatibility between software and hardware platforms, including processes for any interfaces with other Work Packages, as to ensure seamless integration at all areas of overlap;
- An Engineering Content Management System (ECM) shall be configured to the CDE workflows consistent with those set out in BS1192 and integrate with Employers' PMIS
- Access to the (ECM) for the Engineer;
- Structured data sets:
 - Detailed Design Stage 1
 - Detailed Design Stage 2
- As-Built Drawings
- The data sets shall include all plot composition files and associated references, all models and associated references, all associated object and attribute data in mandated format; All renditions of

the above (PDFs) all as listed in the Master Document Index (MDI);

- A copy of the database from the ECM system and its files store;
- All data in a structured (Level/Layer/Filename) format consistent with the UK
- AEC Uniclass.
- All As-Built data in a structured (format) consistent with the Construction Operations Building Information Exchange (COBIE) format;
- Suitability trained personnel with the appropriate capabilities to execute the specific roles and responsibilities as outlined in this BIM requirements, CAD and GIS manuals contained herein;

7) The Engineers BIM Manager:

- Defines the Program BIM requirement;
- Ensures the BIM process serves the engineering and business requirement during the design and build phase of the Works;
- Ensures that the data schema declared for the program serves the engineering requirements of the design and build phase of the Works;
- Ensures industry best practice is utilized for the BIM implementation and to facilitate the transition of design and as-built data into operational data and information for SIA.
- Ensures seamless integration with other adjoining/other relevant contract work packages

8) The Contractors BIM Manager:

- Produces a general BIM implementation plan for their specific Works package, together with the Contractor's Design Coordination Manager, containing:
- Statements on how the work packages shall be zoned, the level of BIM resolution required in what zones, the number of specific discipline models that will be included what level of detail each of these models shall achieve for each stage for the design and build workflow.
- Statements on the level of program integration and Construction sequencing with the BIM model.
- Statements on how the interface with other Works packages shall be achieved and managed.
- Ensures the Contractors' BIM systems are providing the tools, the process is centered on the delivery of structured, coordinated, and accurate information.
- Ensure that all CAD. GIS. BIM data is compatible consistent and accurate, and all BIM processes are compliant with BS 1192.
- Ensures the Contractors' BIM processes serve the engineering and business requirement of managing multi-discipline collaborative workflows, CAD QA, Clash resolution, program linkage and Construction sequencing.
- Coordinates the Project needs for IT solutions.
- Coordinates the agreed Project BEPs and updates to the BEPS.

- Ensures compliance with those standards and methods.
- Shall be responsible for the resolution of all interdisciplinary/other contract work packages and interface resolution.
- Provides the focal point for all file and document management issues in the Project
- Ensures that all information is compliant with standards and that each model or file has been signed off 'fit for purpose.'

9) The Contractors Lead Designer:

- Manages the design, including information development and approvals.
- Confirms the design deliverables of the design team and establishes the zone strategy and ownership.
- Signs and approves the Documentation for detail design coordination on and prior to passing to 'shared.' Ref BS 1192 workflow.

10) The Contractors CAD Manager:

- Ensure that all CAD models and Drawings are delivered to the SIA using agreed IT solutions and are according to the agreed Project requirements.
- Ensure that all object attribute data is structured and compliant with the Project SMPs Ref BS1192. This role should be responsible to the Contractor's BIM Manager.
- Completion of a table of names assigned to the roles described above and submit it to the Employer as a reference document.
- Ensure that all Drawing production shall be in line with CAD standard Guidelines.

47.2.3 The Engineering Content Management (ECM) System

- 1) The Contractor shall produce ECM system information sufficiently detailed to produce traditional Drawings or documents as views of multi-authored data.
- 2) The Contractor shall develop and utilize a suitable ECM system that allows for a suitable permissions matrix, workflow, referencing, version control, process and information hierarchy that is consistent with the principles of the CDE for all models and Drawings.
- 3) The Contractor shall provide access to the ECM system for the Engineer.

47.3 BIM Modelling

47.3.1 Design Authoring Requirements

- i. Model Accuracy and Tolerances: Models will include all appropriate dimensioning as needed for design intent and assessment. See Level of Detail (LoD) and included model elements.
- ii. Modelling Units: The following units shall be used for developing modelling content. The relevant scale factors and adjustments shall be incorporated when federating models with dissimilar units:

47.4 Recommended Software Requirement:

Function	Software	Version	Operating System
x 3D Infrastructure Modeling	Autodesk Civil 3D	Latest CompatibleVersion	Windows 10 (64 Bit Recommended)
	Bentley MX Road/ In Roads	Latest CompatibleVersion	
x 4D BIM modelling forBuildings	Autodesk Revit	Latest CompatibleVersion	
	AECOSim Building Designer	Latest CompatibleVersion	
x Project Review and coordination 3D/4D Schedule Simulation	Autodesk Navis WorksManage	Latest CompatibleVersion	
	Bentley Navigator	Latest CompatibleVersion	
x 4D BIM and GIS integration/coordination	Autodesk Infra Works	Latest CompatibleVersion	
	Bentley Micro Station	Latest CompatibleVersion	
Water NetworkModeling	Bentley Water GEMS	Latest CompatibleVersion	
Sewer NetworkModeling	Bentley Sewer GEMS	Latest CompatibleVersion	
Storm NetworkModeling	Bentley Storm CAD	Latest CompatibleVersion	
StructuralAnalysis	STAAD Pro	Latest CompatibleVersion	
Drafting	AutoCAD	Latest CompatibleVersion	
GIS	Bentley Micro Station	Latest CompatibleVersion	
	ArcMap	Latest CompatibleVersion	
Publishing Publish read only single file containing graphical and non-graphical attribute information for multi-discipline BIM models	I model Plug-in <ul style="list-style-type: none"> • For Revit • For Adobe (Reader) 	Latest CompatibleVersion	

Function	Software	Version	Operating System
3D/2D Models, Drawings and Maps	Autodesk DWG True View	Latest CompatibleVersion	
Office	Microsoft	Latest CompatibleVersion	

48 Schedule M: Guideline for Health, Safety and Environment Plan

The Contractor shall provide General and Administrative HSE Procedures that will engage the welfare of labour, staff and others abiding by the rules and regulations and provide records to the Employer's Engineer.

The Contractor shall prepare specific HSE plans based on the specific Construction procedures to be adopted specifically for this Project to address the complexity, safety, and welfare of labour/staff/equipment as per the details given below.

1. HSE Standards

- The Contractor shall ensure that all personnel engaged (including sub-Contractors) with the project shall be conversant with and at all times comply with the HSE standards for the project. The HSE standards for the project shall include the relevant Contract Documents; India HSE legislation, Relevant IS standards (Bureau of Indian Standards) & Project HSE documents prepared by the Safety Consultant of the Contractor approved by the Employer's Engineer.

2. Legislation

- For the purposes of the project, relevant Indian HSE legislations shall apply to the project as dictated by the various Ministries including but not the least – Ministry of Labor & Employment; Department of Labor – Government of Andhra Pradesh, Ministry of Environment, Forest, and Climate Change.

3. HSE Management System

- The Contractor shall ensure that they will have an HSE policy and an HSE Management system (including safe work procedures) that is documented, visibly endorsed by the company's top management, and implemented & maintained at the project. The Contractor shall ensure that the safe working procedures meet the requirements of the relevant IS standards and are relevant to the works being undertaken by the Contractor.
- The Contractor shall also ensure that the scope of their HSE Management system (including safe work procedures) shall cover not only all areas & tasks being undertaken by the Contractor on the project but also cover the areas & tasks being undertaken by any of their sub-Contractor, interfaces with the Employer's Engineer & Employer.

4. HSE Risk Management

- The Contractor shall ensure that they employ best practice methods and meet all legal requirements in identifying, assessing, and controlling HSE hazards. They shall document these methods and the outcomes.

5. Hazard identification and control

- The Contractor shall identify hazards and their control measures through a formal hazard identification process. The Contractor shall also ensure that they have a written safe work procedure for all the works to be undertaken on the project. Any works that do not have a written work procedure shall have a detailed method statement & job safety analysis (JSA)/risk assessment in place. No work shall be undertaken without an approved method statement & risk assessment in place.

- The Contractor shall submit written summaries of upcoming work (Two weeks look ahead) tasks and associated risk control measures to the Employer's Engineer to discuss the risks of upcoming work tasks and the planned mitigation measures in the weekly progress/HSE meetings.

6. HSE Enforcement

- The Employer Engineer or its representatives shall have the right at any time to audit or inspect Contractor facilities, procedures, and safety management systems. The Contractor shall fully cooperate in such reviews and shall implement recommendations at its own cost where Project HSE Standards or statutory rules and regulations are contravened. The contractor shall ensure the timely closing out of issues raised via these HSE assessments.
- The Employer's Engineer will bring to the attention of the Contractor any situation where the Employer's Engineer observes or is informed of a contravention of the HSE rules and procedures or unsafe acts; or a situation where those contraventions or unsafe acts identified are not considered likely to present an immediate risk but are likely to lead to injury, ill health, or damage to the environment.
- If the Employer's Engineer observes or is informed of, a contravention of the safety rules and procedures or unsafe acts, and if those contraventions or unsafe acts identified are considered likely to present an immediate risk to personnel, then they shall have the authority to stop such work until remedial actions have been addressed to prevent such unsafe acts from recurring.
- If contraventions or unsafe acts persist or present an imminent risk of serious injury or ill health to the persons involved, Employer's Engineer will have the right to stop work being performed and to order a suspension of the execution of any new work in that part or parts of the Works affected by Contractor's HSE violation or negligence.
- Suspension of work shall be measured from the date of issue of an instruction from the Employer's Engineer to the Contractor to suspend work on that particular part of the Works until the unacceptable safety violation has been fully rectified. In such an instance, the Contractor shall have no right to claim for any extension of time or to claim for compensation for the suspension of the work or the waiving of the liquidated damages.
- The contractor shall not resume the provision of the Works affected until the Employer's Engineer is satisfied that the non-compliance has been rectified.
- In addition to enforcement requirements stated in HSE legislations, Contract Requirements and Project HSE standards, the Employer's Engineer may require the removal of any person from the site, who in the opinion of the Employer's Engineer, fails to observe HSE procedures. That person shall not be employed again on the project or any of the sites without the written approval of the Employer's Engineer.
- The Contractor shall be responsible for enforcing the Site HSE Rules and Regulations upon its Sub-Contractors and all other persons entitled to be on any work sites.

7. Environmental Management

- The Contractor shall specify in their HSE plan measures applied to avoid harm to the environment.



These measures shall meet the requirements of the HSE standards as described in the document.

8. HSE Personnel

- The Contractor shall ensure that adequate HSE personnel are appointed to the project. No HSE personnel on the project shall be appointed without prior written permission from Employer's Engineer. The Contractor shall ensure that all HSE personnel meet the requirements as dictated by the project HSE standards.

9. Competence and Training

- The Contractor shall ensure that all personnel are competent, capable, and qualified to a level that allows them to work without creating unnecessary risk for themselves and others. All personnel shall have and maintain the necessary HSE competencies to perform work on the project to the required HSE standards.
- The Contractor shall ensure that all supervisory personnel have formal training in supervisory activities and specialist HSE training to conduct their duties.
- The Contractor shall ensure that a project HSE training matrix is produced. The training matrix shall include the various positions on the project and detail the HSE training that is required for each position.

10. HSE Orientation Training

- The Contractor shall ensure that all personnel working on the project receive an induction HSE training explaining the nature of the work, the hazards that may be encountered during the sitework and the particular hazards attached to their own function within the operation on the first day of work on the project. The training shall cover the contents as detailed within the Project HSE standards.
- The Contractor shall ensure that any new personnel are informed in an equal manner.

11. ID card & Booklet

- The Contractor shall ensure that all personnel working on the project (including sub-Contractors) be issued with a photo identity card duly signed by the authorized representative of the Contractor before they are engaged for any work.
- The Contractor shall also issue a personal HSE handbook in a language known to the workers, which provides information on HSE and emergency procedures that all working personnel are required to know and need to follow. The contractor shall ensure that this is distributed, and its content introduced to all personnel working at the site.

12. Intervention

- The Contractor shall have implemented a system that assures competence (including HSE) of personnel. For those roles where no suitable recognized competence standards exist, the Contractor shall provide, upon the Employer's Engineer's request, information on the selection criteria and/or method used to provide assurance of individual competence.
- The Contractor shall establish and agree with the Employer's Engineer a key list of personnel

undertaking taking HSE critical roles. The list shall identify these key individuals by name and by (key) role. For every role on this list, the Contractor shall define minimum requirements for HSE competences and qualifications relevant to the work.

- The Contractor shall minimize turn-over of HSE personnel, where possible, to ensure established competence levels and to minimize role discontinuity. The Contractor shall obtain the Employer's Engineer's written approval prior to replacing any personnel on the list.
- The Contractor shall have implemented a system that records the training of personnel. The Contractor shall keep training records up-to-date and shall furnish information about the system and/or records of training upon request by Employer's Engineer.

13. Medical fitness to work

- The Contractor shall ensure that all personnel engaged in the project are medically fit for the job to be undertaken. Where required, the Contractor shall be able to demonstrate that personnel, selected for key positions are evaluated for their fitness to work on the project.

14. HSE Communications and Meetings

- The Contractor shall ensure efficient and effective HSE communication and consultation with all personnel involved in the project. This includes but is not limited to toolbox meetings prior to the start of work, and regular worksite HSE meetings with all parties involved (including sub-Contractors).
- The Contractor shall participate in any HSE meetings as organized by the Employer's Engineer.

15. HSE Performance Reporting

The Contractor shall submit on a monthly basis an HSE performance report to the Employer's Engineer. This report shall contain as a minimum the following data, as related to the project:

- A list, including a brief description, of all incidents (including near misses and potential incidents);
- Number of Fatalities (FAT);
- Number of Lost Workday Cases (LWC);
- Number of Restricted Workday Cases (RWC);
- Number of Medical Treatment Cases (MTC);
- Number of First Aid Cases (FAC);
- Number of Environmental Non-conformances;
- Number of Environmental Spills;
- Leading performance indicators as agreed with the Employer's Engineer.
- Additional project-specific HSE performance data, as to be agreed upon with the Employer's Engineer.

The format & content for the HSE performance report shall be agreed upon with the Employer's Engineer



prior to the commencement of the project.

16. Target and Objective setting

- The Contractors' HSE goal shall be "Target Zero" to reflect the project's commitment to an accident-free workplace. The Contractor's targets and objectives shall be focused on leading indicators and pro-active efforts to reduce the likelihood and severity of incidents.

17. HSE Incident Management

- The Contractor shall report any HSE incident and/or accident, related to Contractor activities or personnel, to the Employer's Engineer within 1 hour & to the National or Local authorities as required by relevant legislation. It shall be the responsibility of the Contractor to ensure timely reporting of such accidents/incidents.

The Contractor shall also notify the Employer's Engineer immediately of any near misses and significant potential incidents, arising from the Contractors or sub-Contractors activities associated with the project, related to:

- Harm to Contractor and or Sub-Contractor personnel or Third Party;
- Harm to the environment,
- Damage to, or loss of, Contractor or sub-Contractor /Third party assets;
- Harm to Employer/Employer's Engineer/Contractor reputation.

The Contractor shall fully investigate any incidents on the project and cooperate with the Employer's Engineer and participate as necessary in any investigation of HSE incidents as required by the project HSE standards.

18. Emergency Preparedness and Response

- The Contractor shall maintain a documented, robust fit-for-purpose Emergency Response Plan for the project. The Contractor shall also provide fit-for-purpose survival equipment, first-aid equipment, life-saving equipment, fire-fighting equipment, and oil/chemical spill equipment. The Contractor shall ensure that involved personnel are trained and competent in its use.
- The Contractor shall develop and maintain a programme of training and exercises to ensure the competency of all individuals and teams involved in the emergency response teams in accordance with the project HSE standards.

19. HSE Audits, Reviews, and Inspections

- The Contractor shall perform audits, reviews and inspections on the project as required by project HSE standards. During these audits, reviews and inspections, the Contractor shall verify that they have fulfilled any and all legal obligations; including conditions and stipulations in all relevant licenses, consents and permits and that the work on the project is performed in accordance.
- The Contractor shall develop a detailed HSE inspection & audit schedule for the project and submit copies of the reports to the Employer's Engineer.

20. HSE Records



- The Contractor shall retain all relevant HSE records resulting from work on the project in line with relevant legislation & project HSE standards. Copies of these records shall be maintained by the Contractor on the project site and shall be made available to the Employer's Engineer on demand.

21. Sub-Contractor Management

- The Contractor shall ensure that all sub-Contractors comply with all the HSE standards relevant to the project (including these conditions).
- The Contractor shall be accountable for the sub-Contractor's HSE performance.

22. Project HSE plan

- The Contractor shall prepare and submit to the Employer's Engineer, a project HSE plan which covers all work under the project. This project HSE plan shall be reviewed by the Contractor at regular intervals of not less than 6 months.

23. Substance abuse

- The Contractor shall ensure that all personnel working on the project do not at any time partake of, or be under the influence of drugs, alcohol, sedatives, or other similar intoxicating substances, other than for bona fide medical reasons.

24. Any personnel found contravening the above will be removed from the project with immediate effect and Contractor HSE Plan Template.

48.1 Template for Contractor HSE Plan

This plan is provided as a guidance template for the Contractor to include in their HSE plan. The sections mentioned in this HSE plan template will be the minimum standards that the Contractors' HSE plan will be assessed against.

Section No	Titles of sections	Details of what is required in each section
The contractor must ensure that these sections are included in their Construction HSE plan. The details in these sections are provided as guidance.		
1.0 Section 1 - Project Details		
1.1	Project Specific Details	Contractor to provide contact information for Key Contractor personnel. Contact information to include Name, Mobile number, and email id. Key personnel include: <ul style="list-style-type: none"> • Contractor Project Director • Contractor Project Manager • Contractor Construction manager • Contractors Electrical Engineer

Section No	Titles of sections	Details of what is required in each section
		<ul style="list-style-type: none"> • Contractors Mechanical Engineer • Contractors Process Engineer • Contractor HSE Manager • Contractor General Foremen.
1.2	Details of other Consultants	Details as above of any consultants that the Contractor may employ on theProject.
1.3	Project Security	<p>Contractor to detail the Site security arrangements that will be in place on theProject. Suggestions as below:</p> <ul style="list-style-type: none"> • Site entrance control points • Identity card system • Vehicle barrier types • Visitors to Site procedures • Delivery vehicle procedures • Vehicle parking restrictions • Need for 24hr cover etc.
1.4	Welfare Arrangements	<p>Contractor to detail what arrangements will be made on Site to ensure that appropriate welfare facilities are provided and maintained according to the size of the workforce and nature of the work.</p> <p>As a minimum, an assessment must be carried out to determine specific welfare requirements and arrangements throughout the Project, from day one to the last day persons are on site. Consideration must be given to any requirements for male/female changing, showers or disabled facilities, etc.</p> <p>Details to be included:</p> <ul style="list-style-type: none"> • What type and size of facilities are required, • When they will be operational, • State what the initial set up is and what the subsequent set up will be • Where they are located. Produce clear layout Drawing

Section No	Titles of sections	Details of what is required in each section
		<ul style="list-style-type: none"> • Who provides and maintains each facility. • Expected standards and monitoring requirements.
1.5	Project Organization Chart	The contractor is to include a detailed organization chart with names, designations & contact numbers for the Project.
1.6	Arrangements for communication	Contractor to detail how they plan to communicate HSE with the different Parties on the Project. For example what kinds of HSE meetings will be held on the Project, how often, who will attend etc. Suggestions for HSE Communication include:
		<ul style="list-style-type: none"> • Regular team meeting. • Early morning meetings with key personnel. • Formal correspondence (e.g. Appointment Letters). • Management Walks • Toolbox talks • Training
1.7	Project Goals	Contractor to detail what are the Project HSE goals.
1.8	HSE Compliance monitoring	Contractor to detail how HSE compliance monitoring will be conducted, who will conduct how often this will be conducted.
1.9	Senior Management HSE monitoring	The contractor to detail how Senior management on the Project will be involved in HSE monitoring, How often will they be involved, and what is the process.
2.0 Section 2 - Information and Training for People on Site		

Section No	Titles of sections	Details of what is required in each section
2.1	Inductions & Trainings	<p>Contractor to detail the methods by which they will check that people on Site have been satisfactorily inducted & trained. Suggestions include:-</p> <ul style="list-style-type: none"> • Delivery arrangements – i.e. who does the induction? Who does the training? • Arrangements by which management is informed of new starters; • Arrangements for the recording of inductions/training? • Any passes, or other identification issued after induction • Arrangements for re-induction or safety updating as the contract enters a new phase or persons are transferred to a different section. • What are the training arrangements for the Project?
2.2	Site Safety Rules	Contractor to detail what Site safety rules will be developed or is available for the Project.
3.0 Section 3 - Contractor Management		
3.1	Selection of Contractors	<p>Contractor to detail how they will select sub-Contractors on the Project.</p> <ul style="list-style-type: none"> • How will they ensure that only competent HSE Contractors are on site? • How do they plan to communicate HSE issues with the sub-Contractors? • How do they plan to coordinate the Work with the sub-Contractors?
3.2	Selection of Plant	<p>Contractor to detail how they will ensure that only safe Plant & equipment is bought for the Project.</p> <ul style="list-style-type: none"> • How will they check the Plant & equipment? • How often • Who will check
4.0 Section 4 - Emergency Procedures		
4.1	First Aid	Contractor to detail what are the first aid arrangements that will be made on-site. For example:

Section No	Titles of sections	Details of what is required in each section
		<ul style="list-style-type: none"> • Locations of first aid boxes • Names of First aid personnel and their locations
		<ul style="list-style-type: none"> • Location of First Aid room • Number of First Aiders required • Location of accident book
4.2	Fire and Emergency Procedures	<p>Contractor to detail what are the fire safety arrangements that will be available on-site. For example:</p> <ul style="list-style-type: none"> • Fire points – How many, where will they be located • What kind of extinguishers will be available? • What kind of training will be available? • What will the emergency actions be for the Project?
4.3	Accident & Incident reporting	<p>Contractor to detail what are the accident & incident reporting procedures for the Project. For example:</p> <ul style="list-style-type: none"> • How will accidents be reported? • To whom? • Who will coordinate? • How will they be recorded?
5.0 Section 5 - Arrangements for Controlling Significant Site Risks		
5.1	Production of Method Statements	<p>Contractor, to detail, how method statements will be checked for HSE hazards & risks?</p>
5.2	Risk Assessments	<p>Contractor, to detail, how risk assessments will be produced?</p> <ul style="list-style-type: none"> • Who will produce these? • How will they be reviewed? • Methods of communicating to the workforce on the content of the risk assessments. • How will sub-Contractor risk assessments be checked for the above?

Section No	Titles of sections	Details of what is required in each section
6.0 Section 6 - Environmental Management		
6.1	Environmental Management Strategy	<p>The Contractor to detail how they plan to manage the environmental aspects of the Project. Suggestions include:</p> <ul style="list-style-type: none"> • Environmental management plan. • Project specific Environmental processes • Environmental aspects & impact register
6.2	Waste Management Planning	<p>Contractor to detail how they plan to manage waste (Construction, hazardous & non-hazardous). Suggestion includes:</p> <ul style="list-style-type: none"> • How will waste be collected on-site? • How do they plan to dispose of the waste? • Who will dispose of it, and where?
6.3	Environmental Emergency plans	<p>Contractor to detail what are the environmental emergency plans for the Project. Suggestion includes:</p> <ul style="list-style-type: none"> • Who will initiate action? • Who will report? To whom? • What are the foreseen emergencies?

49 Schedule N: Project Management Requirements

The Contractor shall perform all the Project Management activities necessary for proper planning, management, and control of the work. Below are the Project management requirements which Contractors needs to comply with at different stage of the Projects:

- 1) Participate in the Project kick-off Workshop with Project stakeholders designated by Employer/ Employer's Engineer. The kick-off Workshop shall accomplish the following objectives:
 - i. A common understanding of the Project goals and objectives
 - ii. Define respective roles and responsibilities and
 - iii. Agree on the methods of communication and reporting throughout the Project duration.
- 2) Participate in Monthly Project status review meetings and present the Project progress update in the meeting. The frequency of Project status review meetings may change based on actual requirements.
- 3) Schedule: The Contractor shall submit a detailed schedule with narration in soft and hard copies that cover the full scope of the Contractor's work within 30 calendar days of the appointment date. This will be reviewed within 15 calendar days by Employer's Engineer. The Contractor shall incorporate the comments and resubmit the schedule no later than 15 calendar days after receiving the comments from Employer's Engineer. Upon approval, the above schedule will become the baseline schedule for all future monitoring and tracking.
- 4) The Contractor should keep to the following guidelines
 - i. Develop and incorporate a detailed Work Breakdown Structure (WBS) for all Project schedules that are submitted.
 - ii. All schedules shall be created, maintained, and submitted to the Employer /Employer's Engineer in Oracle Primavera P6 or a higher version of Primavera P6 in an electronic format.
 - iii. All schedules shall follow the Critical Path Method (CPM) of scheduling and shall have meaningful and realistic logical ties and relationships between activities.
 - iv. The Contractor is to maintain a cloud/server-based Primavera (EPPM/OCM) to ensure the schedule prepared by Contractor can be remotely checked and verified by the Employer or PMC. Also, user credentials are to be created and shared for Employer & PMC for updating the dependencies and timely reviewing the schedule.
 - v. The use of negative lags is not permitted in the baseline and all other versions of the schedule.
 - vi. The schedule must contain all the long lead procurement items identified.
 - vii. Shall exercise reasonableness while assigning constraints in schedule and milestones

- viii. The Contractor shall allocate the Contract amount in detail to all the activities. It shall be used as a guide for progress (S-Curve) monitoring only. Progress S-Curve to be updated each month and Progress Measurement will be on the basis of Earned Value Management.
 - ix. The Contractor shall provide narration with all the calculations, reports, forecast, supporting documents and detailed list of assumptions made on the development of the project schedule.
 - x. Activities shall comprise specific and measurable elements of work. Durations for each activity shall be calculated using productivity rates.
 - xi. All schedules shall be resource-loaded and Resource Histogram shall be submitted along with the schedule.
 - xii. Upon approval, the copy of the Baseline schedule will become the first Current Schedule. The Contractor shall not change the approved schedule unless instructed in writing by the Employer/ Employer's Engineer. It shall be used as a basis for measuring progress performance.
 - xiii. The Current schedule shall be actively updated and maintained by the Contractor every month.
 - xiv. The updated Primavera P6 schedule file should be submitted every month along with the Monthly progress report in electronic format. A pdf copy of the updated schedule with all activities also needs to be submitted.
 - xv. A schedule narrative document shall accompany the updated electronic schedule describing the work performed in the reporting period.
 - xvi. Two months' look ahead schedule along with a catch-up and resource plan should be submitted along with the Monthly Progress Report.
- 5) Cash Flow: Cash Flow shall be extracted from Baseline Schedule and Updated Schedule every month. Cash Flow shall be submitted along with Monthly Progress Report to show the actual versus plan and updated on a monthly basis
 - 6) Lessons Learned Database: The Contractor shall develop and actively maintain a "lessons learned" database on a monthly basis (to be included in the monthly Project report) and submit it to the Employer's Engineer/ Employer at the end of the Project during closeout.
 - 7) Risk Register: Maintain an active risk register addressing the risks and mitigation measures (could be in excel format) that lists the Project risks related to their Scope of Work. The risk Register shall be updated every month and be submitted every month along with Monthly Progress Report.
 - 8) Inter-Project Links: Identify potential inter-Project links, inter-dependencies, or conflicts/

interference to work or work areas and narrate them in the monthly progress report.

- 9) Monthly Progress Report: Prepare and submit a monthly progress report no later than the 7th of each month in the format as approved by the Employer/Employer's Engineer. Items 3 to 7 mentioned above shall be the minimum information that will need to be included in the monthly progress report.
- 10) For better collaboration, the Contractor shall use the programme and document management system that will be provided by the Employer/Employer's Engineer at a later date and pay for the cost of procuring licenses to use the system.
- 11) Payments are subject to the timely submission of the monthly progress report and the monthly updated electronic schedule file in the required and acceptable format.
- 12) Non – Compliance

If the Contractor fails to submit Baseline Schedule within Thirty (30) days after Appointed Date or the Baseline Schedule is not approved by the Employer's Engineer within Three (3) months after the first submission, or the Updated Schedule within time prescribed, then the Employer's Engineer shall deduct retention of Seven and Half Percent (7.5%) of the Contractor's Progress Payment over and above the Retention Money specified under clause 14.5 until such time that the Contractor has provided submissions that are acceptable to the Engineer. The sum retained will not earn interest and shall only be released to the Contractor upon due certification by the Employer's Engineer that the amount retained may be released to the Contractor.

50 Schedule O: Aerial Photography

50.1 Aerial photography

50.1.1 Aerial images need to be taken maintaining a GSD (Ground Sample Distance) GSD of ~3cm to ~5cm per pixel or better. Necessary pre-marking or post-marking of ground control points is required for precise geo-referencing of the images. It is required that each GCP (Ground Control Point) is identifiable in the aerial image after processing.

50.1.2 Following are the steps for image processing:

- Identification and marking of GCP on the Site before processing the aerial imageries. The minimum number of GCP should not be less than 20-25 for any village settlement.
- Perform aerial photography at an approximate photo scale of 1:500, using a high-resolution daylight camera (16MP or more) with geo-tagging (RTK GPS), high precision, and a photogrammetric aerial camera.
- Pre-processing of acquired images with on board GPS data in the UAV (Unmanned aerial vehicles)/INS (inertial navigation system)/IMU (inertial measurement unit) system, base station GPS and GCP (ground control points).
- Existing fine-resolution DEM data can be used or create the new DEM using break lines and mass points is used along with the camera the same data can be used for undertaking ortho rectification of image data.
- Ensure uniform pixel resolution across RGB and panchromatic bands if all the bands are used in the data acquisition.
- Identification of GCP locations earlier associated with the aerial imageries and performing geo reference images overlapping 60% forward and 30% side.
- Perform precise geo-referencing of images with 20-25 GCP in a village and 7-12 GCP outside village parcels.
- Hardcopy of the ortho images is to be used for field verification of land parcels and further correction process as and when required by the Employer within the contract period.
- Record Visible and identifiable features like but not limited to Buildings, other structures, including fences, building corners of the enclosed stack flare station, former power Plant building, fence lines, tanks, major pieces of stationary equipment, utility poles and visible utilities (manholes, etc.), stockpiles, edge of roads, trails, paved areas, and gravel areas, grade breaks/tops and bottoms of slopes and other major Site features.

50.1.3 Flight Frequency

- Aerial photography (as described above) shall be performed every Six months or as directed



by the Employer/Employer's Engineer.

50.1.4 Imagery Acquisition:

Components	Description
Coverage Area	Bulk Drug Park, Nakkapalli, Andhra Pradesh
Pixel Size	~3cm to ~5cm, 24-bit true colour
Flight Height	Not more than 4000 ft. (Shall be considered as per the Site conditions*)
Accuracy	National Map Accuracy Standard (NMAS) suitable scale 1 :500 mapping.
Camera	High-resolution camera (16MP or more)
Photographic Conditions	The ground must be free of fog, snow, haze, dust, and smoke
Image Quality	<ul style="list-style-type: none"> • Clear and sharp in detail • Less than 5% cloud cover and/or shadow shall not appear in any of the images. • No "warped" bridges, underpasses, or roads • No "image smear" or "stretched" area on images • No inconsistencies in tone and density between adjacent image tiles • Must be radio metrically & geometrically corrected to enable adjacent image tiles to be displayed simultaneously without obvious distinctions between them. • Seasonal and temporal differences should not show differences across image join lines. • The solar angle must be 30 degrees or more above the horizon at the time of exposure.
Overlapping	60% forward and 30% side

**Height should be considered appropriately (for best result) as per best practices & as per latest central/state government norms.*

50.1.5 Delivery Schedule:



- Flight Plans – Within 10 days of the contract
- Orthophotos – Within 30 days of acquisition
- All Remaining Deliverables – Within 60 days of acquisition

50.1.6 Deliverables:

- Part I - Ground Control Point (GCP) in ESRI GIS format.
- Part II - Raw & processed Ariel imagery in GeoTIFF format.
- Part III - Geo referencing images in GeoTIFF format.
- Part IV - Contour Map, Metadata of all details in ESRI GIS format.
- Part V - DTM / DEM, Contours
- The digital map has to be in *.shp format (in CD/DVD)

50.1.7 Recording Objections:

- A register shall be maintained by the Contractor to record and track the objections. The objections should also be flagged in the Digital Topographic Data Base (DTDB) for better control and monitoring.
- The Contractor shall assist the Government officers in resolving the objections.
- The contractor shall finalize the necessary recording of the objection format between the Ministry of Defence, DGCA, Ministry of Environment and Forest District Magistrate, Local Police Authority or any other Government department whichever is applicable before the commencement of work.

51 Schedule P: Reports

51.1 Geotechnical Investigation Report

Report on "Geotechnical Investigation and testing for the proposed APBDP at Nakkapalli in Anakapalli district in Andhra Pradesh" attached at end of the document Volume I as Annexure VII.

Bidder to note that- The above data is for reference only. Preliminary investigations are in the scope of the Contractor, and it requires the Bidder (Contractor) to do its own investigations and not rely on any, done before. The contractor should also acknowledge and represents that "he has carried out own investigations and analysis to check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in the tender or otherwise provided by Employer or its Consultants and has obtained independent advice from appropriate sources".

The bidder/contractor along with qualified engineers of expertise must at his expense visit the site of the works contract and also the available quarries and sand points as well as sources of water etc. and make use/utilise best of the available resources and obtain geo tag address of the site if any from the Employer in advance to the site visit supra and also upload the photographs of the said site visit.

The leads of civil works be proposed separately with reference to the nearest approved quarries.

52 Schedule Q: Maintenance Requirements

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Annexure VII: Soil Investigation Report

REPORT ON GEOTECHNICAL INVESTIGATION FOR THE PROPOSED PHASE-II SITE AT NAKKAPALLI, VISA KHAPATNAM DISTRICT, ANDHRA PRADESH

JANUARY – 2022

Geo technical Consultant

M/s. AVANI ENGINEERING CONSULTANCY PVT. LTD.

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1. INTRODUCTION

M/s. L&T Infrastructure Engineering Ltd., Chennai, entrusted the work of carrying out “**Geotechnical Investigation for the Proposed Phase-II site at Nakkapalli, Visakhapatnam District, Andhra Pradesh**” to M/s. Avani Engineering Consultancy Pvt. Ltd., Hyderabad.

2. SCOPE OF WORK

The Scope of work includes the following

- Drilling of 18 No. boreholes at the proposed borehole location as per the direction of the client.
- Collection of soil and rock samples and carrying out the relevant laboratory tests on soil and rock samples.
- Conducting Standard Penetration test (SPT) within the borehole at every 1.5m depth interval or as required.
- Preparation of Geotechnical investigation Report.

3. FIELD INVESTIGATIONS

3.1 Boreholes

The fieldwork includes boring / drilling of 18 No. of boreholes in soil and rock. The details of 18 No. boreholes with respective depth of investigation are given in the table below.

List of Boreholes with Depth of investigation

Sl. No.	Borehole No.	Location	Easting (m)	Northing (m)	Reduced Level of the Borehole (m)	Depth of Investigation (m)
1	BH-1	SST & WTP	676573.933	1917049.264	3.500	15.0
2	BH-2	IPS-5	676750.715	1916799.350	5.270	15.0
3	BH-3	IPS-4	678037.491	1917620.402	3.000	15.0



Sl. No.	Borehole No.	Location	Easting (m)	Northing (m)	Reduced Level of the Borehole (m)	Depth of Investigation (m)
4	BH-4	GLSR-1	678539.182	1919274.856	120.420	15.0
5	BH-5	CETP	680019.752	1918207.937	4.190	15.0
6	BH-6	IPS-3	680698.973	1918792.733	5.360	15.0
7	BH-7	GLSR-2	681617.863	1920170.512	25.720	15.0
8	BH-8	GLSR-3	681544.726	1921516.410	25.310	15.0
9	BH-9	IPS-2	682418.689	1920971.533	2.000	15.0
10	BH-10	IPS-1	683406.972	1920031.100	11.000	15.0
11	BH-11	Bridge	684013.668	1921103.078	1.500	Not done due to Land Issue
12	BH-12	Bridge (Span 3 x 24m)	678825.753	1918037.047	3.000	40.0
13	BH-13	Bridge (Span 5 x 24m)	679803.425	1918602.517	1.820	40.0
14	BH-14	Bridge (Span 5 x 24m)	680569.657	1918620.723	1.500	42.0
15	BH-15	Bridge (Span 2 x 24m)	680642.176	1919267.002	5.860	40.0



Sl. No.	Borehole No.	Location	Easting (m)	Northing (m)	Reduced Level of the Borehole (m)	Depth of Investigation (m)
16	BH-16	SST	676036.432	1917011.415	3.000	15.0
17	BH-17	SST	675888.563	1916720.460	2.500	15.0
18	BH-18	SST	676307.549	1916914.199	3.060	15.0

The location of boreholes is indicated in the layout plan and the same is given in Appendix-I.

3.2 Rotary drilling

Rotary drilling technique was adopted for advancing and cleaning out borehole in overburden soil between sample intervals. Standard penetration test (SPT) is conducted at every 1.5m interval or at change of strata.

3.3 Drilling equipment

Mechanical rigs of rotary drilling machine was used for the purpose. The rigs are well suited for the required work. The rigs are new and well-maintained.

Soil Boring: The boring was advanced by rotating drill string connected by series of drill rods. The boring diameter of 150mm was formed using a drag bit (Soil Cutter) in soil. The drag bit cuts the subsoil at the bottom of the borehole and the soil fragments were removed by drilling mud (bentonite) which is under circulation.

Bentonite slurry is used for stabilizing the borehole. Bentonite slurry deposits as a thin film on the wall of the borehole during circulation and stability of borehole is derived from its thixotropic property and the hydrostatic head of the suspension. Bentonite having liquid limit greater than 400% is used for preparing bentonite slurry.



Terms	Description	Grade	Geologist Interpretation
Fresh	No visible sign of rock material weathering; perhaps slight discoloration on Minor discontinuity surfaces.	I	CR > 90 %
Slightly Weathered	Discoloration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discoloured by weathering.	II	CR between 70 % to 90 %
Moderately Weathered	Less than half of the rock material is decomposed or disintegrated to a soil. Fresh or discolored rock is present either as a continuous framework or as core stones.	III	CR between 51 % to 70 %
Highly Weathered	More than half of the rock material is decomposed or disintegrated to a soil. Fresh or discolored rock is present either as a discontinuous framework or as core stones	IV	CR between 11 % to 50 %
Disintegrated Rock	All rock material is decomposed and / or disintegrated to soil. The original mass structure is still largely intact.	V	CR between zero to 10 %
Residual Soil	All rock material is converted to soil. The mass structure and material fabric are destroyed. There is a large change in volume, but the soil has not been significantly transported.	VI	CR = Zero % But N > 50

52.12.1.1.1.1.1.2 ...As per IS 4464

It should be understood that all grades of weathering may not be seen in a given rock mass and that in some cases a particular grade may be present to a very small extent. Distribution of the various weathering grades of rock material in the rock mass may be related to the porosity of the rock material and the presence of open discontinuities of all types in the rock mass.

CLASSIFICATION OF ROCK WRT COMPRESSIVE STRENGTH



Rock is also classified by strength of intact rock cores collected during drilling. Rock compressive strength (UCS) is used to define strength of rock. Following table summarizes classification of rock based on strength as given in IRC 78, Appendix 2, Section 8 and IS 13365 (Part 1).

Rock Type	Description	Unconfined Compressive Strength (UCS) in Mpa	
		As per IRC 78, Appendix 2	IS 13365 (Part 1)
Extremely Strong	Cannot be scratched with knife or sharp pick. Breaking of specimen could be done by sledge hammer only.	>200	>250
Very Strong	Cannot be scratched with knife or sharp pick. Breaking of specimens requires several hard blows of geologists' pick.	100 to 200	100 to 250
Strong	Can be scratched with knife or pick with difficulty. Hard blow of hammer required to detach hand specimen.	50 to 100	50 to 100
Moderately Strong / Average	Can be scratched with knife or pick, 6 mm deep gouges or grooves can be made by hand blow of geologists' pick. Hand specimen can be detached by moderate blow.	12.5 to 50	25 to 50
Moderately Weak / Weak	Can be grooved or gouged 1 .5 mm deep by firm pressure on knife or pick point. Can be broken into pieces or chips of about 2.5 mm maximum size by hard blows of the points of geologists' pick.	5 to 12.5	10 to 25
Weak / Very Weak	Can be grooved or gouged easily with knife or pick point. Can be break down in chips to pieces several em's in size by moderate blows of pick point. Small thin pieces can be broken by finger pressure.	1 .25 to 5	2 to 10
Very weak / Extremely Weak	Can be carved with knife. Can be broken easily with point of pick. Pieces 25 mm or more in thickness can be broken by finger pressure. Can be scratched easily by finger nail	<1.25	<2



Storing of core samples

All core pieces are placed in standard core boxes in a serial order and correct sequence from top in descending order. The shallowest core shall be placed to the top left-hand corner of every compartment starting with cores placed adjacent to the hinged section. Core boxes shall confirm to IS 4078-1980.

Ground Water Table:

Observations were made for ground water in borehole during and after boring. Observed Ground water table is recorded on the borelog.

Preparation of Bore Logs:

On completion of each borehole, the soil samples were examined and logged. The final log is prepared on the basis of visual examination of soil samples and laboratory testing data. The following are observed and recorded in the borelog:

The commencement and completion date, location of borehole, elevation of top and bottom of boring, ground water table, boundaries of each soil layer that encountered, classification and description of the soil, blow count values obtained from SPT tests, collection of soil samples etc. Field borelogs are provided in Appendix-II.

4. LABORATORY TESTINGS**SOIL****Natural Moisture content**

Natural moisture content of the soil samples is determined as per IS 2720 (Part 21) from the collected soil samples using oven-drying method.

Specific Gravity

Specific Gravity test is conducted as per IS 2720 (Part 3) on the soil samples collected.

Grain Size Distribution

Grain size distribution analysis is carried out by sieving method as per IS 2720 (Part 4) to determine the grain size distribution.

Atterberg's Limits

Atterberg's limits test is conducted as per IS: 2720 (Part 5) on the soil samples collected to determine the liquid limit and plastic limit.

Shear Test

Shear Test is conducted as per IS: 2720 (Part 11 / 13).

Free Swell Index

Free Swell index of soil is determined as per IS: 2720 (Part 40).

ROCK**Density**

Density of rock samples is determined for the selected core sample as per IS: 13030.

Compressive strength test

Compressive strength tests were carried out on selected rock core samples as per IS: 9143.

Water Absorption

Water Absorption of rock samples is determined for the selected core sample as per IS: 13030.

Point Load Test

Point Load Test is carried out on selected rock core samples as per IS: 8764.

Laboratory results of soil and rock are provided in Appendix - III.

5. SUB SURFACE PROFILE

Based on the field and laboratory test results, the general subsurface profiles encountered in the boreholes are has given below.

Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
BH-1 (SST & WTP)	0.0	3.0	3.0	Loose Brownish Sand with Clay	SC

Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	3.0	4.5	1.5	Loose Brownish Sand with Clay	SC
	4.5	5.5	1.0	Dense Brownish Sand	SM
	5.5	6.0	0.5	Brownish Grade VI Residual Soil	SP
	6.0	9.0	3.0	Completely Weathered Grade V Brownish Rock (Small Core Pieces)	-
	9.0	12.0	3.0	Completely Weathered Grade V Brownish Rock	
	12.0	15.0	3.0	Highly Weathered Grade IV Brownish Rock	-
BH-2 (IPS-5)	0.0	3.0	3.0	Very Loose Brownish Sand	SP
	3.0	4.5	1.5	Stiff Brownish Clayey Soil	CH
	4.5	7.5	3.0	Medium Stiff Brownish Clayey Soil	CH
	7.5	9.0	1.5	Brownish Grade VI Residual Soil	SM
	9.0	10.5	1.5	Completely Weathered Grade V Brownish Rock	-
	10.5	15.0	4.5	Highly Weathered Grade IV Brownish Rock	-



Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
BH-3 (IPS-4)	0.0	3.0	3.0	Soft Brownish Clayey Soil with Sand	CH
	3.0	4.0	1.0	Very Loose Brownish Sand with Clay	SC
	4.0	4.5	0.5	Brownish Grade VI Residual Soil	SP
	4.5	6.0	1.5	Highly Weathered Grade IV Brownish Rock	-
	6.0	7.5	1.5	Completely Weathered Grade V Brownish Rock	-
	7.5	9.0	1.5	Highly Weathered Grade IV Brownish Rock	-
	9.0	10.5	1.5	Completely Weathered Grade V Brownish Rock	-
	10.5	12.0	1.5	Highly Weathered Grade IV Brownish Rock	-
	12.0	15.0	3.0	Moderately Weathered Grade III Brownish Rock	-
BH-4 (GLSR-1)	0.0	1.5	1.5	Completely Weathered Grade V Brownish Grey Rock	-
	1.5	15.0	13.5	Highly Weathered Grade IV Brownish Grey Rock	-
BH-5 (CETP)	0.0	4.5	4.5	Soft Blackish Clayey Soil with Sand	CH



Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	4.5	9.0	4.5	Medium Stiff Blackish Clayey Soil with Sand	CH
	9.0	15.0	6.0	Hard Brownish Red Clayey Soil with Sand	CI
BH-6 (IPS-3)	0.0	3.0	3.0	Very Loose Brownish Sand	SP
	3.0	7.5	4.5	Loose Brownish Sand with Clay	SC
	7.5	9.0	1.5	Medium Dense Brownish Sand with Clay	SC
	9.0	10.5	1.5	Dense Brownish Sand with Clay	SC
	10.5	12.0	1.5	Very Dense Brownish Sand with Clay	SC
	12.0	13.5	1.5	Brownish Grade VI Residual Soil	SC
	13.5	15.0	1.5	Completely Weathered Grade V Brownish Rock	-
BH-7 (GLSR-2)	0.0	1.5	1.5	Brownish Sand	SP
	1.5	3.0	1.5	Completely Weathered Grade V Brownish Rock	SP
	3.0	15.0	12.0	Highly Weathered Grade IV Brownish Grey Rock	-



Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
BH-8 (GLSR-3)	0.0	1.0	1.0	Brownish Sand	SM
	1.0	1.5	0.5	Completely Weathered Grade V Brownish Rock	-
	1.5	3.0	1.5	Highly Weathered Grade IV Brownish Grey Rock	-
	3.0	4.5	1.5	Completely Weathered Grade V Brownish Grey Rock	-
	4.5	10.5	6.0	Highly Weathered Grade IV Brownish Grey Rock	-
	10.5	12.0	1.5	Completely Weathered Grade V Brownish Grey Rock	-
	12.0	15.0	3.0	Highly Weathered Grade IV Brownish Grey Rock	-
BH-9 (IPS-2)	0.0	3.0	3.0	Loose Brownish Sand with Clay	SC
	3.0	4.5	1.5	Medium Dense Brownish Sand with Clay	SC
	4.5	7.5	3.0	Dense Brownish Sand with Clay	SC
	7.5	10.5	3.0	Brownish Grade VI Residual Soil	SP



Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	10.5	15.0	4.5	Completely Weathered Grade V Brownish Rock	SP
BH-10 (IPS-1)	0.0	3.0	3.0	Medium Dense Brownish Sand	SM
	3.0	6.0	3.0	Medium Dense Brownish Sand with Clay	SC
	6.0	7.5	1.5	Medium Dense Brownish Sand	SP-SM
	7.5	9.0	1.5	Dense Brownish Sand	SP-SM
	9.0	10.5	1.5	Brownish Grade VI Residual Soil	SP-SM
	10.5	12.0	1.5	Very Dense Brownish Sand	SM
	12.0	15.0	3.0	Brownish Grade VI Residual Soil	SM
BH-12 (Bridge)	0.0	4.5	4.5	Very Soft Brownish Clayey Soil with Sand	CI
	4.5	6.0	1.5	Loose Brownish Sand with Clay	SC
	6.0	7.5	1.5	Medium Dense Brownish Sand with Clay	SC
	7.5	10.5	3.0	Dense Brownish Red Sand with Clay	SC
	10.5	21.0	10.5	Brownish Red Grade VI Residual Soil	SC

Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	21.0	22.5	1.5	Highly Weathered Grade IV Brownish Grey Rock	-
	22.5	28.0	5.5	Brownish Red Grade VI Residual Soil	SC
	28.0	28.5	0.5	Completely Weathered Grade V Brownish Red Rock	SM
	28.5	40.0	11.5	Highly Weathered Grade IV Brownish Grey Rock	-
BH-13 (Bridge)	0.0	4.5	4.5	Very Loose Brownish Sand with Clay	SC
	4.5	7.5	3.0	Medium Dense Brownish Sand with Clay	SC
	7.5	10.5	3.0	Dense Brownish Sand with Clay	SC
	10.5	18.0	7.5	Very Dense Brownish Sand with Clay	SC
	18.0	21.0	3.0	Brownish Grade VI Residual Soil	SC
	21.0	24.0	3.0	Completely Weathered Grade V Brownish Rock	-
	24.0	27.0	3.0	Brownish Grade VI Residual Soil	SC
	27.0	30.0	3.0	Completely Weathered Grade V Brownish Rock	-



Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	30.0	40.0	10.0	Highly Weathered Grade IV Brownish Grey Rock	-
BH-14 (Bridge)	0.0	3.0	3.0	Very Loose Brownish Sand	SP
	3.0	4.5	1.5	Loose Brownish Sand	SP-SM
	4.5	6.0	1.5	Loose Brownish Sand with Clay	SC
	6.0	7.5	1.5	Very Loose Brownish Sand with Clay	SC
	7.5	9.0	1.5	Loose Brownish Sand with Clay	SC
	9.0	10.5	1.5	Medium Stiff Brownish Clayey Soil with Sand	CI
	10.5	12.0	1.5	Stiff Brownish Clayey Soil with Sand	CI
	12.0	15.0	3.0	Dense Brownish Sand with Clay	SC
	15.0	19.5	4.5	Brownish Grade VI Residual Soil	SM
	19.5	34.5	15.0	Completely Weathered Grade V Brownish Rock	-
	34.5	42.0	7.5	Highly Weathered Grade IV Brownish Grey Rock	-

Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
BH-15 (Bridge)	0.0	4.5	4.5	Very Soft Brownish Clayey Soil with Sand	CH
	4.5	6.0	1.5	Medium Stiff Brownish Clayey Soil with Sand	CH
	6.0	7.5	1.5	Stiff Brownish Clayey Soil with Sand	CI
	7.5	9.0	1.5	Medium Dense Brownish Sand with Clay	SC
	9.0	12.0	3.0	Dense Brownish Sand with Clay	SC
	12.0	16.5	4.5	Completely Weathered Grade V Brownish Rock	-
	16.5	18.0	1.5	Completely Weathered Grade V Brownish Grey Rock (Small Core Pieces)	-
	18.0	30.0	12.0	Completely Weathered Grade V Brownish Rock	-
	30.0	36.0	6.0	Highly Weathered Grade IV Brownish Grey Rock	-
	36.0	37.5	1.5	Completely Weathered Grade V Brownish Grey Rock (Small Core Pieces)	-
	37.5	39.0	1.5	Highly Weathered Grade IV Brownish Grey Rock	-

Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	39.0	40.0	1.0	Completely Weathered Grade V Brownish Grey Rock	-
BH-16 (SST)	0.0	3.0	3.0	Very Soft Brownish Clayey Soil with Sand	CI
	3.0	6.0	3.0	Medium Stiff Brownish Clayey Soil with Sand	CI
	6.0	7.5	1.5	Medium Stiff Brownish Clayey Soil with Sand	CI
	7.5	9.0	1.5	Medium Dense Brownish Sand	SM
	9.0	10.5	1.5	Very Dense Brownish Sand	SM
	10.5	15.0	4.5	Completely Weathered Grade V Brownish Rock	-
BH-17 (SST)	0.0	4.5	4.5	Soft Blackish Clayey Soil	CH
	4.5	6.0	1.5	Medium Stiff Blackish Clayey Soil	CH
	6.0	7.5	1.5	Soft Blackish Clayey Soil	CH
	7.5	9.0	1.5	Dense Brownish Sand with Clay	SC
	9.0	12.0	3.0	Completely Weathered Grade V Rock	-

Borehole No.	Depth (m)		Thickness of Layer (m)	Description of the Soil	IS Classification
	From	To			
	12.0	15.0	3.0	Highly Weathered Grade IV Brownish Rock	-
BH-18 (SST)	0.0	3.0	3.0	Very Soft Brownish Clayey Soil	CH
	3.0	6.0	3.0	Stiff Brownish Clayey Soil	CH
	6.0	7.5	1.5	Very Stiff Brownish Clayey Soil with Sand	CI
	7.5	9.0	1.5	Dense Brownish Sand	SM
	9.0	13.5	4.5	Completely Weathered Grade V Brownish Rock	-
	13.5	15.0	1.5	Completely Weathered Grade V Brownish Rock (Small Core Pieces)	-

The sub-surface profile is shown in Appendix-IV.

6. SILT FACTOR AND SCOUR DEPTH COMPUTATIONS

Silt Factor Computations in Silty / Sandy Soils

Silt Factor is determined as per IRC 78. Representative samples have been taken at regular interval of 1.5m or change of strata. For the purpose of silt factor computation, the weighted mean diameter of particles for representative sample of each stratum encountered up to the maximum anticipated scour depth has been determined.

$$\text{Silt Factor } K_{sf} = 1.76 \times (dm)^{\frac{1}{2}}$$

d_m = Mean Particle Size.

Silt Factor for Silty / Clayey / Silty Clayey Stratum

Silt factor in silty / clay / silt clayey stratum is determined as per IRC 78-2014, Appendix-I. In clay instead of silt factor, clay factor is adopted.

$$K_{sfc} = F \times (1 + \sqrt{c})$$

Where

c = Cohesion in kg/sqcm.

$F = 1.5$ for $\phi = 10^\circ$ to 15°

$= 1.75$ for $\phi = 5^\circ$ to 10°

$= 2.0$ for $\phi = < 5^\circ$

The computed silt factor is given in Table-1 of Appendix-V and summarised in the table given below.

SI.No.	Location	Average Silt Factor
1	BH-12 (Bridge)	1.04
2	BH-13 (Bridge)	1.16
3	BH-14 (Bridge)	1.42
4	BH-15 (Bridge)	0.78

Scour Depth Computation

Scour Depth has been calculated based on Cl. 110.1.3 of IRC: 5-1998.



$$\text{Mean Depth of Scour } D_{sm} = 1.34 \times (D_b^{2/3} / K_{sf}^{1/3})$$

Where,

D_{sm} = Mean depth of scour in meters.

D_b = Discharge in cumecs / m^2

K_{sf} = Silt factor of representative sample for Sandy Soils.

The computed scour depth is given in Table-2 of Appendix-V. If hard refusal stratum with SPT $N > 100$ is encountered at shallow depth, the scour level is taken as higher of computed scour level or top of refusal stratum level. In case the scour level arrived is higher than the borehole ground level, the borehole ground level is taken as scour level.

Summary of computed scour depth, restricted scour level for refusal stratum and scour depth below the ground for borehole locations drilled is given in the table below.

Borehole No.	Location	Reduced Level of the Borehole (m)	Computed Theoretical Scour Level (m)	Depth of Refusal Stratum below the Ground Level (m)	Restricted Scour Level where refusal stratum $N > 100$ is encountered (m)	Scour Level taken as higher of computed or restricted (m)	Scour Depth below the ground (m)
BH-12	Bridge	3.000	Scour Computations Needs to be Computed, If required. (Hydraulic Particulars Discharge, HFL, LBL)	21.0	-18.000	Scour Computations Needs to be Computed, If required. (Hydraulic Particulars Discharge, HFL, LBL and Clear Vent Way to be provided by client)	
BH-13	Bridge	1.820		27.0	-25.180		
BH-14	Bridge	1.500		19.5	-18.000		

Borehole No.	Location	Reduced Level of the Borehole (m)	Computed Theoretical Scour Level (m)	Depth of Refusal Stratum below the Ground Level (m)	Restricted Scour Level where refusal stratum N>100 is encountered (m)	Scour Level taken as higher of computed or restricted (m)	Scour Depth below the ground (m)
BH-15	Bridge	5.860	and Clear Vent Way to be provided by client)	12.0	-6.140		

7. TYPE OF FOUNDATION

Based on the sub-surface profile and the type of structures i.e., SST & WTP, IPS, GLSR etc, Open foundation / Pile foundation can be considered based on the design and constructions requirements. For Bridges Deep foundation in the form of Pile Foundation can be considered.

8. SHALLOW FOUNDATION

The following section describes the method of analysis adopted to arrive at the safe bearing capacities for shallow foundation.

Bearing capacity calculation for footings resting on soil / weathered rock

In case of sandy soils, the angle of internal friction ' ϕ ' is determined by the standard penetration test as per IS: 6403. The ϕ values were used for determining the Ultimate Bearing Capacity of soil as per shear failure criteria. The ultimate bearing capacity, q_d is calculated as per equations furnished in IS: 6403 as given below.

The ultimate bearing capacity q_d is given by

$$q_{nu} = c N_c s_c d_c i_c + q (N_q - 1) s_q d_q i_q + 1/2 B \gamma N_\gamma s_\gamma d_\gamma i_\gamma w'$$

q_{nu} = Net ultimate bearing capacity

c = cohesion

ϕ = Angle of internal friction

γ = Unit weight of soil

q = Over burden pressure = depth x density = $d \times \gamma$

B = Width of the foundation

W' = Water table correction factor

N_c, N_q, N_γ = Bearing capacity factors

s_c, s_q, s_γ = Shape factors

For strip footing $s_c = s_q = s_\gamma = 1$

For rectangular footing $s_c = 1 + 0.2 \times B / L,$

$s_q = 1 + 0.2 \times B / L,$

$s_\gamma = 1 - 0.4 \times B / L,$

For square footing $s_c = 1.3, s_q = 1.2, s_\gamma = 0.8$

For circular footing $s_c = 1.3, s_q = 1.2, s_\gamma = 0.6$

d_c, d_q, d_γ = Depth factors

$d_c = 1 + 0.2 \times (D_f / B) \tan (45^\circ + \phi' / 2)$

$d_q = d_\gamma = 1$ for $\phi' < 10^\circ$

$d_q = d_\gamma = 1 + 0.1 \times (D_f / B) \tan (45^\circ + \phi' / 2)$ for $\phi' > 10^\circ$

i_c, i_q, i_γ = Inclination factors

$i_c = i_q = (1 - \alpha^\circ / 90^\circ)^2$

$i_\gamma = (1 - \alpha^\circ / \phi')^2$

α° = Inclination of the load with vertical

The Safe bearing capacity (SBC) is the maximum intensity of loading that the foundation will safely carry without the risk of shear failure of soil. Safe bearing capacity can be obtained by dividing the Ultimate Bearing Capacity (UBC) with a factor of safety of 2.5.

$$\text{SBC} = q_{nu} / 2.5$$

In the design of bearing capacity calculations the water table is assumed at foundation level and water table correction factor has been applied accordingly.

Net Safe Settlement Pressure as per IS: 8009 (Part 1)

The Net Safe Settlement Pressure for sandy soil stratum is computed as per IS: 8009 (Part – I).

Net Allowable Bearing Pressure is taken has lower value of Net Safe Bearing Capacity computed and Net Safe Settlement Pressure computed.

The computation of bearing capacity and settlement pressure calculation is provided in Table-1 and 2 of Appendix-VI.

9. PILE FOUNDATION

9.1 PILE VERTICAL CAPACITY IN SOIL

A) Piles in Granular soils as per IS 2911 (Part I /Sec 2)

Ultimate bearing capacity (Q_u) of pile in granular soils is given by the following formula.

$$Q_u = A_p (0.5 D \times \gamma \times N_\gamma + P_D \times N_q) + \sum l_i \times \sigma_{vi} \times \tan \delta \times A_{si}$$

Where:

Q_u - Ultimate bearing capacity

A_p - Cross sectional area of pile toe

A_{si}	- Surface area of pile stem in cm^2 in the i^{th} layer where i varies from 1 to n
D	- Stem diameter
γ	- Effective unit weight of soil at pile toe
P_D	- Effective overburden pressure at pile toe
N_γ & N_q	- bearing capacity factors depending upon the angle of internal friction (Φ) at toe
Σ	- Summation for n layers in which pile is installed
K	- Coefficient of earth pressure
P_{di}	- effective overburden pressure in kg/cm^2 for the

i^{th} layer where i varies from 1 to n

δ - angle of friction between pile and soil in degrees (may be taken equal to Φ)

B) Piles in Cohesive Soils as per IS 2911 (Part I /Sec 2)

The ultimate bearing capacity of piles (Q_u) in cohesive soil is given by the following

$$Q_u = A_p \times N_c \times C_p + \alpha \times C \times A_s$$

Where

Q_u	-Ultimate bearing capacity
A_p	- cross sectional area of pile toe
N_c	-bearing capacity factor usually taken as 9
C_p	-average cohesion at pile tip
α	- reduction factor
C	- average cohesion throughout the length of pile
A_s	-surface area of pile shaft

The computation of pile vertical capacity is shown in Table-3 to 16 of Appendix-VI.

9.2 PILE LATERAL LOAD CAPACITY IN SOIL

Pile Lateral Load Capacity in soil is calculated as per Appendix C of IS 2911 (Part I/Sec 2).

The pile head is assumed to be fixed.

$$Q_h = \frac{24 y E I}{(L_1 + L_f)^3}$$

For computation of Pile Lateral Load Capacity in soil at scour depth level the equation is modified as given below.

$$Q_h = \frac{24 y E I}{(3 \times (L_1 + L_f) \times L_f^2 - L_f^3)}$$

$$T = 5 \sqrt{\frac{EI}{K_1}} \quad R = 4 \sqrt{\frac{EI}{K_2}}$$

Where

E = Young Modulus of the pile material

I = Moment of Inertia of the Pile Cross-section

L_f = Depth of Fixity

y = Pile head deflection

L₁ = Length of pile above the ground.

K₁ is constant for Sandy Soils as per Table 1 of IS 2911 (Part I / Sec 2)

K₂ is constant for Clayey Soils as per Table 2 of IS 2911 (Part I / Sec 2)

or

$$T, \text{ in m} = \sqrt[5]{\frac{EI}{\eta_h}}$$

$$R, \text{ in m} = \sqrt[4]{\frac{EI}{KB}}$$

□ η_h = Modulus of subgrade reaction as per Table 3 of IS 2911 (Part I / Sec 2)

$K = k_1 / 1.5 \times 0.3 / B$

k_1 = As per Table 4

B = width of pile shaft (diameter in case of circular piles) in m

The lateral load capacity of fixed head pile is determined for pile lateral deflection of 1% Diameter. The computation of pile lateral load capacity is shown in Table-3 to 16 of Appendix-VI.

9.3 PILE UPLIFT CAPACITY IN SOIL

The ultimate uplift capacity is calculated with the expression of shaft resistance / skin friction and applying a reduction factor of 0.70. The weight of the pile is also taken acting against the uplift. Pile Uplift load carrying capacity is given by

$$P = \frac{\frac{2}{3} Qf}{2.5} + \text{Self Weight of pile}$$

The Computed Uplift load capacity is given in Table – 3 to 16 of Appendix-VI.

Computed Pile Vertical capacity and Pile Lateral Load Capacity for 600mm diameter pile (SST & WTP, IPS, CETP and SST)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-1, SST & WTP	3.500	1.600	-7.000	600	10.5	8.6	54	50	18	13.3	4.7	Completely Weathered Rock (Sand)
	3.500	1.600	-8.500		12.0	10.1	66	62	23	13.3	4.7	Completely Weathered Rock (Sand)
	3.500	1.600	-10.000		13.5	11.6	90	86	30	13.3	4.7	Weathered Rock



Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-2, IPS-5	5.270	3.370	-8.230	600	13.5	11.6	97	92	34	4.5	6.7	Weathered Rock
	5.270	3.370	-9.730		15.0	13.1	106	101	41	4.5	6.7	Weathered Rock
	5.270	3.370	-11.230		16.5	14.6	115	109	47	4.5	6.7	Weathered Rock
BH-3, IPS-4	3.000	1.100	-6.000	600	9.0	7.1	57	55	16	13.3	4.7	Weathered Rock
	3.000	1.100	-7.500		10.5	8.6	74	70	22	13.3	4.7	Completely Weathered Rock
	3.000	1.100	-9.000		12.0	10.1	89	85	28	13.3	4.7	Weathered Rock
BH-5, CETP	4.190	2.290	-9.310	600	13.5	11.6	54	49	33	6.0	6.1	Clayey Soil with Sand

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
	4.190	2.290	-10.810		15.0	13.1	64	59	39	6.0	6.1	Clayey Soil with Sand
	4.190	2.290	-12.310		16.5	14.6	73	67	45	6.0	6.1	Clayey Soil with Sand
BH-6, IPS-3	5.360	3.460	-8.140	600	13.5	11.6	70	66	31	3.8	7.1	Residual Soil (Clayey Sand)
	5.360	3.460	-9.640		15.0	13.1	84	79	37	3.8	7.1	Completely Weathered Rock (Sand)
	5.360	3.460	-11.140		16.5	14.6	92	86	42	3.8	7.1	Completely Weathered Rock (Sand)
BH-9, IPS-2	2.000	0.100	-8.500	600	10.5	8.6	53	49	23	12.4	4.8	Residual Soil (Sand)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
	2.000	0.100	-10.000		12.0	10.1	74	70	29	12.4	4.8	Completely Weathered Rock (Sand)
	2.000	0.100	-11.500		13.5	11.6	82	77	34	12.4	4.8	Completely Weathered Rock (Sand)
BH-10, IPS-1	11.000	9.100	-1.000	600	12.0	10.1	49	45	19	10.2	5.1	Sand
	11.000	9.100	-2.500		13.5	11.6	62	57	25	10.2	5.1	Residual Soil (Sand)
	11.000	9.100	-4.000		15.0	13.1	69	63	30	10.2	5.1	Residual Soil (Sand)
BH-16, SST	3.000	1.100	-10.500	600	13.5	11.6	76	71	31	5.2	6.4	Completely Weathered Rock (Sand)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
	3.000	1.100	-12.000		15.0	13.1	84	78	36	5.2	6.4	Completely Weathered Rock (Sand)
	3.000	1.100	-13.500		16.5	14.6	91	85	42	5.2	6.4	Completely Weathered Rock (Sand)
BH-17, SST	2.500	0.600	-11.000	600	13.5	11.6	97	93	35	7.6	5.6	Weathered Rock
	2.500	0.600	-12.500		15.0	13.1	106	101	41	7.6	5.6	Weathered Rock
	2.500	0.600	-14.000		16.5	14.6	115	109	48	7.6	5.6	Weathered Rock
BH-18, SST	3.060	1.160	-10.440	600	13.5	11.6	78	74	32	8.2	5.5	Completely Weathered Rock (Sand)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
	3.060	1.160	-11.940		15.0	13.1	92	86	38	8.2	5.5	Completely Weathered Rock
	3.060	1.160	-13.440		16.5	14.6	100	94	44	8.2	5.5	Completely Weathered Rock

**Computed Pile Vertical capacity and Pile Lateral Load Capacity for 900mm diameter pile
(Bridges and CETP)**

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-5, CETP	4.190	1.840	-9.310	900	13.5	11.2	90	80	52	17.3	8.4	Clayey Soil with Sand
	4.190	1.840	-10.810		15.0	12.7	111	100	63	17.3	8.4	Clayey Soil with Sand
	4.190	1.840	-12.310		16.5	14.2	128	116	74	17.3	8.4	Clayey Soil with Sand
BH-12, Bridge	3.000	1.650	-18.000	900	21.0	19.7	223	208	110	28.1	9.0	Residual Soil (Clayey Sand)
	3.000	1.650	-19.500		22.5	21.2	243	227	124	28.1	9.0	Residual Soil (Clayey Sand)
	3.000	1.650	-21.000		24.0	22.7	263	245	139	28.1	9.0	Residual Soil (Clayey Sand)
BH-13, Bridge	1.820	0.470	-19.180	900	21.0	19.7	212	197	102	28.1	9.0	Residual Soil (Clayey Sand)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
	1.820	0.470	-20.680		22.5	21.2	273	257	115	28.1	9.0	Completely Weathered Rock (Sand)
	1.820	0.470	-22.180		24.0	22.7	290	273	128	28.1	9.0	Completely Weathered Rock (Sand)
BH-14, Bridge	1.500	0.150	-19.500	900	21.0	19.7	235	220	88	12.0	11.3	Completely Weathered Rock (Sand)
	1.500	0.150	-21.000		22.5	21.2	252	236	101	12.0	11.3	Completely Weathered Rock (Sand)
	1.500	0.150	-22.500		24.0	22.7	269	252	114	12.0	11.3	Completely Weathered Rock (Sand)
BH-15, Bridge	5.860	4.510	-15.140	900	21.0	19.7	254	239	101	24.4	9.4	Completely Weathered Rock (Sand)



Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
	5.860	4.510	-16.640		22.5	21.2	271	255	114	24.4	9.4	Completely Weathered Rock (Sand)
	5.860	4.510	-18.140		24.0	22.7	288	271	126	24.4	9.4	Completely Weathered Rock (Sand)

10. EXCAVATED SOIL FOR BACK FILLING

Back filling of excavated soil can be used when the soil is of sandy soil (SW, SP, SM and SC) in nature. Excavated soil can't be used when the soil is of clayey soil (CL, CI and CH) in nature.

Sandy soils are encountered in boreholes BH-1, BH-2, BH-4, BH-6, BH-7, BH-8, BH-9, BH-10, BH-13 and BH-14 and Clayey soils are encountered in boreholes BH-3, BH-5, BH-12, BH-15, BH-16, BH-17 and BH-18.

11. CHEMICAL RESULTS OF WATER

Water used for mixing, and curing shall be clean and free from injurious amounts of oils, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel. Portable water is generally considered satisfactory for mixing of concrete.

Water samples are collected from the project site and tests are conducted for pH, Total Organic Solids, Total Inorganic Solids, Sulphate as



SO₄, Chloride and suspended matter as per IS: 3025.

Tests Required	Test Method	Result	Result	Limits as per IS: 456
Location		(1) Boreholes BH-1,2,16,17,18 (1.2km from Sea Coast) From Pond (Uppateru)	(2) Boreholes BH-6,14,15 (0.62km from Sea Coast) From Salt Lake	
pH Value	IS: 3025 (Part-11)-1983,RA 2017	8.18	7.72	Not less than 6
Organic	IS: 3025 (Part-18)-1984, RA 2012	9.6	22.4	Max. 200 mg/l
Inorganic	IS: 3025 (Part-18)-1984, RA 2012	1784	10652	Max. 3000 mg/l
Sulphates as SO ₃ (mg/l)	IS: 3025 (Part-24)-1986, RA 2014	56.6	156.3	Max. 400 mg/l
Chloride as Cl (mg/l)	IS: 3025 (Part-32)-1988, RA 2014	710	5325	Max. 2000 mg/l for concrete not containing embedded steel and Max. 500 mg/l for reinforced concrete work
Suspended Matter	IS: 3025 (Part-17)-1984, RA 2017	12.6	26	Max. 2000 mg/l



(1) Boreholes BH-1,2,16,17,18 (1.2km from Sea Coast) From Pond (Uppateru)

Water sample collected from this location, the results are within permissible limits as per IS 456.

(2) Boreholes BH-6,14,15(0.62km from Sea Coast) From Salt Lake

Water sample collected from this location, the results are within permissible limits as per IS 456 except for Inorganic and Chloride.

Environmental Exposure of project site as per Table-3 of IS: 456 is Very Severe. Minimum Cement Content and Minimum Grade of Concrete shall be used as per Table-5 of IS: 456.

12. RECOMMENDATION**SHALLOW FOUNDATION**

- Based on the sub-surface profile encountered for construction of SST & WTP, IPS, GLSR etc, envisaged, Shallow Foundation can be considered based on the design requirements.
- The recommended net safe bearing capacity along with founding depth for borehole locations drilled is given in the table below.

Borehole No.	Location	Reduced Level of the Borehole (m)	Depth of Foundation below the Existing Ground Level (m)	Reduced Level of the Foundation (m)	Recommended Net Allowable Bearing Pressure (t/sqm)	Foundation Stratum
Isolated Foundation						
BH-1	SST & WTP	3.500	4.5	-1.000	35.0	Dense Brownish Sand
BH-3	IPS-4	3.000	4.5	-1.500	45.0	Brownish Grade VI Residual Soil



Borehole No.	Location	Reduced Level of the Borehole (m)	Depth of Foundation below the Existing Ground Level (m)	Reduced Level of the Foundation (m)	Recommended Net Allowable Bearing Pressure (t/sqm)	Foundation Stratum
BH-4	GLSR-1	120.420	1.5	118.920	45.0	Completely Weathered Grade V Brownish Grey Rock
BH-7	GLSR-2	25.720	1.5	24.220	30.0	Completely Weathered Grade V Brownish Rock
BH-8	GLSR-3	25.310	1.5	23.810	30.0	Completely Weathered Grade V Brownish Rock
BH-9	IPS-2	2.000	3.0	-1.000	18.0	Medium Dense Brownish Sand with Clay
BH-10	IPS-1	11.000	3.0	8.000	18.0	Medium Dense Brownish Sand with Clay

PILE FOUNDATION

- Based on the sub-surface profile encountered at SST & WTP (BH-1), IPS (BH-2, BH-3, BH-6, BH-9, BH-10), CETP (BH-5) and SST (BH-16, BH-17 and BH-18) locations deep foundations in the form of Pile Foundation can be considered.
- Based on the sub-surface profile encountered at Bridge (BH-12, BH-13, BH-14 and BH-15) locations deep foundations in the form of Pile Foundation can be considered.
- Bored cast insitu RCC Piles are recommended for proposed construction of Bridge and other structures.
- Based on the load coming on to the foundation a group of 4 to 6 piles of 600mm or 900 mm diameter piles can be adopted.
- Centre to centre spacing of piles shall not be less than 2.5 times of the diameter of the shaft.



- Both skin friction and end bearing capacity are considered in computation of pile vertical capacity.
- During the process of borehole drilling no casing has been used to retain the drilled borehole. Bentonite powder was used for circulation of water during the drilling process which also assisted in retaining the drilled borehole without any collapse.
- Pile load test to be conducted on piles according with the India Standard IS 2911 (Part 4) are recommended for Pile Vertical Capacity and Pile Lateral Load Capacity.
- The construction of piles should be done as per IS: 2911 specification.
- Details of pile termination and pile capacities for pile foundation is summerised in the table given below.

Recommended Pile Vertical capacity and Pile Lateral Load Capacity for 600mm diameter pile (SST & WTP, IPS, CETP and SST)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-1, SST & WTP	3.500	1.600	-7.000	600	10.5	8.6	50	48	14	13.0	4.7	Completely Weathered Rock (Sand)
BH-2, IPS-5	5.270	3.370	-8.230	600	13.5	11.6	94	90	32	4.0	6.7	Weathered Rock

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-3, IPS-4	3.000	1.100	-6.000	600	9.0	7.1	54	52	14	13.0	4.7	Weathered Rock
BH-5, CETP	4.190	2.290	-9.310	600	13.5	11.6	50	46	30	6.0	6.1	Clayey Soil with Sand
BH-6, IPS-3	5.360	3.460	-8.140	600	13.5	11.6	68	62	28	3.5	7.1	Residual Soil (Clayey Sand)
BH-9, IPS-2	2.000	0.100	-8.500	600	10.5	8.6	50	46	20	12.0	4.8	Residual Soil (Sand)
BH-10, IPS-1	11.000	9.100	-1.000	600	12.0	10.1	46	42	16	10.0	5.1	Sand
BH-16, SST	3.000	1.100	-10.500	600	13.5	11.6	72	68	28	5.0	6.4	Completely Weathered Rock (Sand)
BH-17, SST	2.500	0.600	-11.000	600	13.5	11.6	94	90	32	7.5	5.6	Weathered Rock

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-18, SST	3.060	1.160	-10.440	600	13.5	11.6	76	70	30	8.0	5.5	Completely Weathered Rock (Sand)

Recommended Pile Vertical capacity and Pile Lateral Load Capacity for 900mm diameter pile (Bridges and CETP)

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-5, CETP	4.190	1.840	-9.310	900	13.5	11.2	86	76	48	17.0	8.4	Clayey Soil with Sand

Borehole No.	Reduced Level of the Ground	Reduced Level of Pile Cap Bottom	Reduced Level of Pile Termination	Diameter of Pile (mm)	Depth of pile below the Existing Ground (m)	Pile Length below bottom of Pile Cap (m)	Recommended Safe Pile Vertical Capacity (Tonnes)	Recommended Net Safe Pile Vertical Capacity (Tonnes)	Recommended Safe Pile Uplift Load Capacity (Tonnes)	Recommended Pile Lateral Load Capacity (Tonnes)	Depth of Fixity below bottom of Pile Cap including Free Standing Length (m)	Pile Termination Stratum
BH-12, Bridge	3.000	1.650	-18.000	900	21.0	19.7	220	206	106	28.0	9.0	Residual Soil (Clayey Sand)
BH-13, Bridge	1.820	0.470	-19.180	900	21.0	19.7	208	194	100	28.0	9.0	Residual Soil (Clayey Sand)
BH-14, Bridge	1.500	0.150	-19.500	900	21.0	19.7	232	218	86	12.0	11.3	Completely Weathered Rock (Sand)
BH-15, Bridge	5.860	4.510	-15.140	900	21.0	19.7	250	236	98	24.0	9.4	Completely Weathered Rock (Sand)

- Back filling of excavated soil can be used only in the case of sandy soils of type SW, SP, SM and SC.
- The water samples collected from the boreholes are within the permissible limits for solids as per Table-1 of IS: 456 – 2000 except for Inorganic and Chloride for locations near to the seacoast.

- The area is near coastal zone with high corrosion level (as per corrosion map of india). The reinforcement should be stainless steel or the reinforcement may be treated with epoxy paint.
- Environmental exposure condition is severe as per Table-3 of IS: 456 – 2000.
- Minimum cement content and minimum grade of concrete shall be as per Table-5 of IS: 456 – 2000.
- Nominal cover to meet durability requirements is as per Table-16 of IS: 456 – 2000.

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