



# **WAPCOS LIMITED**

**(A Government of India Undertaking)**  
**Ministry of Jal Shakti**

## **GUIDING BIDDING DOCUMENTS (GBD)**

**For**

**Selection of**

**Engineering, Procurement and Construction (EPC) Contractor for Development of  
Kovalam & Adjacent beaches in Thiruvananthapuram, Kerala**

**Tender No.: WAP/INFRA/KERALA/24/TSM/480-2**

**Issued on: (26.11.2024)**

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S. No.	GUIDING BIDDING DOCUMENTS (GBD)
1.	Volume I - Request for Proposal (RFP)- Notice Inviting E-Tenders (NIT) & Instructions to Bidders (ITB)
2.	Volume II- General Conditions of Contract (GCC)
3.	Volume III- Particular Conditions of Contract (PCC)
4.	Volume IV- Employer's Requirement
5.	Volume V- Tender Drawings
6.	Volume VI- Financial Bid

## **DISCLAIMER**

This document has been prepared by the WAPCOS Limited, a Government of India Undertaking, (Employer) on behalf of The Secretary, Department of Tourism, Government of Kerala (The Procurement Authority). The information is provided to prospective Bidders, who are interested to Bid for “Development of Kovalam & adjacent Beaches in Thiruvananthapuram Kerala” in Engineering Procurement Construction (EPC) mode. The Kerala Infrastructure Investment Fund Board (KIIFB), Kerala is the Funding Agency of the project and shall directly release all the payments pertaining to this Project to the selected Contractor, upon recommendation by the Employer.

The purpose of this Instruction to Bidders (ITB) is to provide interested parties with information to assist in the preparation of their Bid. While due care has been taken in the preparation of the information contained herein, and it is believed to be complete and accurate, neither the authorities nor their agencies or any of their respective officers, employees, agents nor advisors give any warranty or make any representations, expressed or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

Further, The Employer do not claim that the information is exhaustive. Interested parties are required to make their own inquiry/ survey/ site visit and will be required to confirm, in writing, that they have done so and they did not rely solely on the information given herein.

The Employer reserves the right not to proceed with the project or to change the configuration of the project, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Project further with any interested party.

No reimbursement of cost of any type or on any account will be made to persons or entities submitting their Bid.

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**VOLUME – I**  
**REQUEST FOR PROPOSAL (RFP)-**  
**NOTICE INVITING E-TENDERS (NIT)**  
**&**  
**INSTRUCTIONS TO BIDDERS (ITB)**

## PRESS NOTICE

### NOTICE INVITING E-TENDER

Date: 26.11.2024

#### **RFP for the “Development of Kovalam & adjacent beaches in Thiruvananthapuram, Kerala”**

The Employer on behalf of the Authority invites online bids in Engineering Procurement Construction (EPC) through e- tendering from eligible contractors/ firms in single stage, two cover bid systems for the following work.

<b>Name and Description of Project</b>	<b>Estimated Cost (INR)</b>	<b>Completion Period of Work</b>	<b>Tender Fee (INR)</b>	<b>Last date &amp; time to submit the e-tender</b>	<b>Bid Security (INR)</b>
Development of Kovalam & adjacent beaches in Thiruvananthapuram Kerala	65,19,13,050/- (excluding GST)	21 months	17,700/-	03.12.2024 at 04:00 PM	5,00,000/-

\*It is an indicative cost and not binding on the Employer, bidders have to do their own due diligence for "Working out the Project Cost"

For submission & other tender details, please refer to the detailed NIT on <http://www.wapcos.co.in>; e-tender portal of Government of Kerala (GoK), [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in); and Central Public Procurement (CPP) e-tender portal <https://eprocure.gov.in>.

The Employer reserves the right to accept or reject any Bid without assigning any reason or incurring any liability whatsoever. Prospective bidders are advised to regularly scan through <http://www.wapcos.co.in>; e-tender portal of Government of Kerala (GoK), [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in); and Central Public Procurement (CPP) e-tender portal <https://eprocure.gov.in>; as corrigenda/amendments, etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

1. The intending bidder must read the terms and conditions of the Notice Inviting Bids and the Bid documents carefully. They should submit the Bid only if they consider themselves eligible and they are in possession of all the documents required.
2. Information and Instructions for Bidders posted on the website shall form part of the bid document.

3. If no rate is quoted by the bidder, the rate shall be treated as "0" (ZERO) and the tender shall be treated as invalid.
4. The Technical bid shall be opened first on the due date and time as mentioned in Clause 1.2 KIT. The time and date of opening the financial bid of contractors qualifying the technical bid shall be communicated to them at a later date.
5. E-Tender Fee (NON-REFUNDABLE): The tender document(s), may be downloaded free of cost from the e-Government Procurement (e-GP) website ([www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in)). However, the tender fee, as mentioned in the NIT, is required to be submitted along with the online bid.
6. Bid Security: Bidders shall remit the Bid Security using online payment options of the e-Procurement system only. Bidders are advised to visit the "Downloads" section of the e-Procurement website. No exemption is allowed for Bid Security.
7. The complete set of Guiding Bidding Documents (GBD) comprises of six volumes shall be made available, as per the above schedule, on the above-mentioned websites.
8. It is advisable to visit the site and acquaint themselves with the actual site conditions and employer's requirement.
  - Pre-Bid queries can be emailed to [wapcoskovalam@gmail.com](mailto:wapcoskovalam@gmail.com) and [wapcoscochin@gmail.com](mailto:wapcoscochin@gmail.com) on or before 29-11-2024 05:00 pm.
9. Corrigenda/ amendments, etc., if any, will be notified on these portals only and separate advertisement will not be made for this. Bidders are advised to check all these websites regularly.
10. In addition to above, the Bidder shall follow all the KIIFB guidelines as given in the website <https://kiifb.org/resources.jsp>.

(Signature)  
Regional Manager,  
WAPCOS Limited

## GENERAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING

### A. Online Bidder registration process:

Bidders should have a Class III B Digital Signature Certificate (DSC), preferably Class III to be procured from any Registration Authorities (RA) under the Certifying Agency of India. Details of RAs will be available on [www.cca.gov.in](http://www.cca.gov.in).

Once, the DSC is obtained, The Bidders have to register on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) website for participating in this tender. Website registration is a one- time process without any registration fees. However, bidders have to procure DSC at their own cost.

Bidders may contact e-Procurement support desk of Kerala State IT Mission over telephone at 0471-2577088/188/388 or 0484-2336006, 2332262 or 0497-2764788, 2764188 or 0483-273294 or through email: [etendershelp@kerala.gov.in](mailto:etendershelp@kerala.gov.in) OR [helpetender@gmail.com](mailto:helpetender@gmail.com) for assistance in this regard. Also, for CPP portal a 24 x 7 Help Desk Number 0120-4200462, 0120-4001002.

### B. Online Tender Process:

The tender process shall consist of the following stages:

- (i) **Downloading of tender document:** Tender document will be available for free download on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), <https://eprocure.gov.in> and <http://www.wapcos.co.in>. However, tender document fees shall be payable at the time of bid submission as stipulated in this tender document.
- (ii) **Publishing of Corrigenda:** All Corrigenda shall be published on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in); <https://eprocure.gov.in>; and <http://www.wapcos.co.in>.
- (iii) **Bid submission:** Bidders have to submit their bids along with supporting documents to support their eligibility, as required in this tender document on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in). No manual submission of bid is allowed and manual bids shall not be accepted under any circumstances.
- (iv) **Opening of Technical Bid:** The technical bids will be opened, evaluated and shortlisted as per the eligibility and technical qualifications. All documents in support of technical qualifications shall be submitted (online). Failure to submit the documents online will attract disqualification. Bids shortlisted by this process will be taken up for opening the financial bid..
- (v) **Opening of Financial Bids:** Bids of the technically qualified bidders only shall be considered for opening and evaluation of the financial bid. The date and time of Financial Bid opening shall be intimated to the technically qualified bidders.

### C. Documents Comprising Bid:

#### i. The First Cover (Technical Bid):

Technical proposal shall contain the scanned copies of the documents, which has to be uploaded in the e tender portal.

The Employer does not take any responsibility for any technical snag or failure that has taken place during document upload.

**ii. The Second Cover (Financial Bid):**

The Bidder shall complete the Financial Bid as per format provided to be downloaded along with this tender.

**Note:** The blank Financial Bid should be downloaded and saved on bidder's computer without changing filename; otherwise Financial Bid will not get uploaded. The bidder should fill in the details in the same file and upload the same back to the website.

**Bid Price:** Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable/ variable price quotation will be treated as non-responsive and rejected.

**D. E-Tender Fee and Bid Security**

The Bidder shall remit E-Tender Fee and Bid Security **as mentioned in the NIT to participate in the Bid.**

The Bid Security of unsuccessful Bidder(s) except lowest three will be refunded after finalization of tender process. The Bid Security submitted by the successful bidder(s) shall be retained by the Employer until the Performance Security is submitted. The successful bidder shall sign the agreement within 21 days from Issue of LOA, failing which the Bid Security shall be forfeited and the award of work (LOA) may liable to be cancelled.

If any Bidder(s) withdraws or make any changes in his offer already submitted before the expiry of the above validity period or any extension thereof without the written consent of the Employer, the Bid Security amount will be forfeited for such act of the bidder(s). Bid Security shall not carry any interest.

The Employer reserves the right of forfeiture of Bid Security in case of the successful Bidder(s) under the following circumstances but not limited to:

- i. Does not commence the work within the period as per LOA/ Contract.
- ii. Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in Section IV of this RFP.
- iii. Bidder withdraws its Bid during the period of Bid validity as specified in this RFP and as extended by mutual consent of the respective Bidder(s) and the Employer.
- iv. In the case of Selected Bidder, if it fails within the specified time limit, to sign and return the duplicate copy of LOA; or to sign the Agreement; or to furnish the Performance Security within the period prescribed therefore in the Agreement; or having signed the Agreement, commits any breach thereof prior to furnishing the Performance Security.

**Online Payment modes:** The e-tender fee and Bid Security can be paid in the following manner through e-Payment facility provided by the e-Procurement system:

**State Bank of India Multi Option Payment System (SBI MOPS Gateway):** The Bidders are required to avail Internet Banking Facility in any of the Nationalised and Scheduled Banks of India for making tender remittances in e Procurement System.

During the online Bid submission process, The Bidder shall select SBI MOPS option and submit the page, to view the Terms and Conditions page. On further submitting the same, the e-Procurement system will re-direct the Bidder to MOPS Gateway, where two options namely SBI and Other Banks\* will be shown. Here, Bidder may proceed as per below:

- a) SBI Account Holders shall click SBI option to with its Net Banking Facility., where the Bidder can enter their internet banking credentials and transfer the Tender Fee and Bid Security amount.
  - b) Other Bank Account Holders may click “Other Banks” option to view the bank selection page. Here, bidders can select from any of the 54 Banks to proceed with its Net Banking Facility, for remitting tender payments.
- Transaction Charges for Other Banks vide SBI Letter No. LHO/TVM/AC/2016-17/47 - 1% of transaction value subject to a minimum of Rs.50/- and maximum of Rs.150/-.
  - Bidders who are using “Other Banks” option under SBI MOPS Payment Gateway, are advised by SBI to make online payment 72 hours in advance before tender closing time.

Any transaction charges levied while using any of the above modes of online payment has to be borne by the Bidder. The bid will be evaluated only if payment status against bidder is showing “Success” during bid opening.

#### **E. SUBMISSION PROCESS:**

For submission of bids, all interested bidders have to register online as explained above in this document. After registration, bidders shall submit their Technical bid and Financial bid online on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), along with online payment of tender fees and Bid Security.

It is necessary to click on “Freeze bid” link/ icon to complete the process of bid submission otherwise the bid will not get submitted online and the same shall not be available for viewing/ opening during bid opening process.

**For & on behalf of Bidder**

## **DEFINITIONS**

1. **“Agreement”** shall mean the agreement to be signed between the Successful Bidder and the Employer and/ or their authorized representatives.
2. **“Authority”** shall mean The Secretary, Department of Tourism, Government of Kerala, (the Administrative Department) which owns the project and shall act as procuring entity/ procuring authority. The Authority shall be represented by the Special Purpose Vehicle (SPV) appointed by them.
3. **Authority Engineer”** shall mean M/s KIIFCON Private Limited.
4. **“Base Date”** shall mean the date prior to 28 days of opening of bid as per Clause 1.2 KIT.
5. **“Bidder”** shall mean the entity (individual, proprietary firm, firm in partnership, limited company, private, public corporation or Joint Venture firm) participating in the tendering process pursuant to and in accordance with the terms of this document.
6. **“Bid”** Shall mean the Bidder’s signed offer for the Works, the JV Undertaking (if applicable) and all other documents which the Bidder submitted with the Tender (other than these Conditions, the Schedules and the Employer’s Requirements, if so submitted), as included in the Contract.
7. **Bid Price:** Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable/ variable price quotation will be treated as non - responsive and rejected.
8. **“Guiding Bid Document (GBD)”** shall mean set of six volumes as defined in Clause 1.3.
9. **“Bid Validity”** shall mean the period for which the Bids shall remain valid.
10. **“Commencement Date”** shall mean the date as stated in the Employer’s Notice issued under Sub-Clause 8.1 (Commencement of Works)
11. **“Contract Price”** shall mean the agreed amount stated in the Contract Agreement for the execution of the Works, and includes adjustments (if any) in accordance with the Contract.
12. **“Defects Notification Period”** shall mean the period after completion of the Project during which the Employer or his authorized representative will notify to the Contractor any defect noticed in the work and the Contractor is liable for rectification of such defects. Proof of dispatch of letter notifying the defect/ intimating the representative of Contractor at site on the last date of Defects Notification period will make the Contractor liable for rectify all such defects.
13. **“Employer”** Shall mean WAPCOS Limited, a Government of India Undertaking, Ministry of Jal Shakti, Government of India, which is a Special Purpose Vehicle (SPV) duly appointed by the Secretary, Department of Tourism, Government of Kerala for the project as per GO no. 10/2023/TSM dated 24-02-2023.
14. **“Employer’s Representative”** Shall mean an Engineer appointed by the Employer who shall act as per GCC.
15. **“Estimated Cost (EC)”** means the rough cost estimate prepared for the project.



16. **“EPC”** (Engineering, Procurement and Construction) means the construction methodology by which the selected Contractor undertakes the execution of the Project by undertaking the Engineering (preparation of Architectural, structural and services design and drawings), procurement of all the material and equipment necessary for the execution of the Project & construction to deliver a functioning facility or asset to the Authority/Employer based on indicative conceptual drawings & information provided in “Volume IV Employer’s Requirements of General Bidding Document”.
17. **“Funding Agency”** shall mean the Kerala Infrastructure Investment Fund Board (KIIFB) under the Government of Kerala (GoK).
18. **“GST”** shall mean Goods and Service Tax.
19. **“ITB”** means Instructions to Bidders.
20. **“Letter of Award”** i.e. LOA shall mean the letter issued by the Employer to the Successful Bidder inviting him to sign the Contract Agreement.
21. **“NIT”** means Notice inviting e-Tender. The word “Notice Inviting e-Tender” is synonymous with “Notice Inviting Bids”.
22. **“Performance Security”** shall mean the amount to be paid by the Successful Bidder as per sub-clause 4.2 in Volume II - GCC.
23. **“Project”** shall mean Development of Kovalam and adjacent beaches in Thiruvananthapuram Kerala to be implemented by the Contractor.
24. **“Schedule of Payments”** means the document(s) entitled schedule of payments (if any) in the Schedules showing the amounts and manner of payments to be made to the Contractor.
25. **“Schedule of Performance Security”** means the document(s) entitled schedule of performance guarantees (if any) in the Schedules showing the guarantees required by the Employer for performance of the Works and/ or the Plant or any part of the Works (as the case may be), and stating the applicable Performance Damages payable in the event of failure to attain any of the guaranteed performance(s).
26. **“Similar Works”** shall mean the work as defined in eligibility criteria.
27. **“Site”** shall mean the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places specified in the Contract as forming part of the Site.
28. **“Successful Bidder”** shall mean the bidder declared technically and financially successful for the Project and with whom, the Contract Agreement shall be signed.
29. **“Year”** means “Financial Year” unless stated otherwise.
30. **“Diaphragm wall”** mean diaphragm wall or other costal line protection using ultra high- performance fibre reinforced concrete of sheet piles with appropriate deisgn.

## LIST OF ABBREVIATION

BEAMS	Beach Environment and Aesthetics Management Serviced
BOCWA	Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
BOD	Biological Oxygen Demand
CBA	Cost Benefit Analysis
CCTV	Closed Circuit Television
CI	Cast Iron
COD	Chemical Oxygen Demand
CPHEEO	Central Public Health and Environmental Engineering Organisation
CPWD	Central Public Works Department
CRZ	Coastal Regulation Zone
CSP	Cross Section Profile
CSR	Corporate Social Responsibility
CZMA	Coastal Zone Management Authority
CZMP	Coastal Zone Management Plan
DAAB	Dispute Avoidance/Adjudication Board
DOT	Department of Tourism, Government of Kerala
DSR	Delhi Schedule of Rates
DTPC	District Tourism Promotion Council
ECC	Environmental Carrying Capacity
ELV	Extra Low Voltage
EPF	Employees Provident Fund
ESD	Education for Sustainable Development
ESI	Employees State Insurance
ETABS	Extended three-dimensional analysis of building system
FEE	Foundation for Environment Education
FRP	Fibre Reinforced Plastic
GBD	Guiding Bidding Documents
GFC	Good for the Construction
Gol	Government of India
GoK	Government of Kerala
HTL	High Tide Line
IB	Inspection Bungalow
ICZM	Integrated Coastal Zone Management
IEC	International Electro Technical Commission

IIT	Indian institute of Technology
IS	Indian Standard
IT	Information Technology
ITDC	Indian Tourism Development Corporation
KCSU	KIIFB Consultancy Services Unit
KCZMA	Kerala Coastal Zone Management Authority
KIIFB	Kerala Infrastructure Investment Fund Board
KSEB	Kerala State Electricity Board
KSEI	Kerala State Electrical Inspectorate
KSPCB	Kerala Sate Pollution Control Board
KTDC	Kerala Tourism Development Corporation
KVDA	Kovalam Vizhinjam Development Authority
LAC	Legislative Assembly Constituency
LEO	Littoral Environmental Organisation
LPM	Litres Per Minute
LSF/LSOH	Low Smoke and Fume / Low Smoke Zero Halogen
LSG	Local Self-Government
LT	Low Tension
LTL	Low Tide Line
LV	Low Voltage
MCCB	Moulded Case Circuit Breaker
MoC	Material of Construction
MoEF & CC	Ministry of Environment, Forest and Climate Change
NBC	National Building Code
NCCR	National Centre for Coastal Research
NDZ	No Development Zone
NIOT	National Institute of Ocean Technology
NW	Northwest
OAT	Open Air Theatre
PCB	Pollution Control Board
PIS	Project Implementation Schedule
PVC	Poly Vinyl Chloride
PWD	Public Works Department, Government of Kerala
RRF	Resource Recovery Facility
RT	Responsible Tourism
SBR	Sequencing Batch Reactor

SE	Southeast
SICOM	Society of Integrated Coastal Management
SPV	Special Purpose Vehicle
SUD	Sustainable Urban Development
SWOT	Strength Weakness Opportunities and Threat
UNESCO	United Nations Educational, Scientific and Cultural Organization
VISL	Vizhijam International Seaport Limited
WBS	Work Breakdown Structure
WDR	Wide Dynamic Range
XLPE	Cross Linked Polyethylene

## **SECTION I INTRODUCTION**

### **1.1 BACKGROUND**

- 1.1.1 The Project focuses on the development of Kovalam and adjacent beaches including the infrastructure development at Light house Beach and Hawa Beach, Renovation of Silent Valley Sun Bath Park at Hawa beach, Development of Corporation land, Developing the Connectivity to Corporation Land, Land demarcation at Adimalathura beach. Please refer Volume- IV: Employer's Requirement for more details
- 1.1.2 The Project area comprises of disjoint land parcels which stretches over a total length of approx. 4.00 kms, out of which the 2.00 kms constitute the Kovalam Beach that begins from Silent Valley Sun Bath Park to Lighthouse beach, and the rest 2.00 kms constitutes the Adimalathura Beach that begins from Somatheeram to towards south of Adimalathura Beach.
- 1.1.3 The broad aim / objective of the Project is to transform Kovalam and adjacent beaches to a must go destination by providing state-of-the-art and differently abled friendly facilities, new infrastructure development in conjunction with improving the existing infrastructure facilities, thereby enhancing the activities which will make the beach vibrant. This would in turn help in maximizing revenue by attracting more visitors with extended time spent thereby maximizing value capture. The Project is conceptualized with the further goal of achieving the coveted status of Kerala's second blue flag certified beach by propagating sustainable development while ensuring inclusive economic growth through mainstreaming marginalized population.

The main objectives of the Project are as follows.

- Develop the Infrastructure facilities at Hawa Beach and Light House Beach
  - Renovate the Silent Valley Sun Bath Park.
  - Demarcate the Boundary of Adimalathura Beach.
  - Develop Corporation Land.
  - Work towards obtaining blue flag certification.
  - Develop the existing public infrastructure at Kovalam beach to improve the built environment and the local standard of living.
  - Transform the beach in a sustainable manner.
  - Providing beach accessibility for all people including differently abled individuals.
  - Design and construction of Geo tube based offshore coastal protection measures for Lighthouse Beach.
- 1.1.4 As part of the objectives mentioned above, the Employer on behalf of the Authority intends to select and appoint an experienced Contractor to undertake and execute the scope of work as per Volume IV: Employer's Requirement, as per the provisions of this GBD.
- 1.1.5 The scope of work of various components are mostly inter-related to each other and the Project needs to be implemented holistically in a time bound manner for

its effective commissioning, the Employer has decided to adopt Engineering, Procurement and Construction (“EPC”) mode of implementation for the Project. Hence, vide this RFP, the Employer is seeking online Proposals from eligible Firms for selection of a Contractor through e- tendering in a single bid, two cover system. The entire bid process will be driven through the e-tender portal of Government of Kerala (GoK), [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in).

- 1.1.6 On behalf of the Employer, the Regional Manager, Kerala will be responsible for all the matters relating to this Bid process. Any clarification shall be sought from the above officer through courier/speed post/e-mail within the stipulated time. The NIT and other details are available on the following websites and e-tender portals of Gol and GoK, viz; <http://www.wapcos.co.in>, <https://etenders.gov.in>, and [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in).

## 1.2. KEY INFORMATION TABLE

S No	DESCRIPTION	DETAILS
1.	Title of the Project	Development of Kovalam & Adjacent Beaches in Thiruvananthapuram, Kerala
2.	Mode of Project Delivery	Engineering Procurement and Construction (EPC)
3.	Method of Selection	Least Cost Selection
4.	District	Thiruvananthapuram
5.	Block	Athiyannoor
6.	Corporation/ Municipality/ Panchayat	Thiruvananthapuram Corporation
7.	Legislative Assembly Constituency (LAC)	Kovalam
8.	DPR (July, 2022) prepared by	KIIFB - TRC
9.	Portal for bid submission	GoK e-Tender Portal: <a href="https://www.etenders.kerala.gov.in">https://www.etenders.kerala.gov.in</a> ; The information related to the bid process would also be available in: <a href="http://www.wapcos.co.in">http://www.wapcos.co.in</a> and <a href="https://eprocure.gov.in">https://eprocure.gov.in</a> ;
10.	Estimated Cost (EC)	Rs. 65,19,13,050/- (Excluding GST)
11.	Tender Fee	Rs. 17,700/- (Including GST) (Bidders shall remit the Tender Fee using the online payment options of the e-procurement system only)
12.	Bid Security	Rs. 5,00,000/- (Refundable) (Bidders shall remit the Bid Security using the online payment options of the e-procurement system only.
13.	Pre-Bid Meeting (Online or Offline) Venue	Pre-Bid queries can be emailed to wapcoskovalam@gmail.com and wapcoscochin@gmail.com on or before 29-11-2024 05:00 pm
14.	Pre-Bid Meeting response	<a href="https://www.etenders.kerala.gov.in">https://www.etenders.kerala.gov.in</a> ; <a href="http://www.wapcos.co.in">http://www.wapcos.co.in</a> <a href="https://eprocure.gov.in">https://eprocure.gov.in</a> ;
15.	Commencement Date	Date of signing of agreement or any specific date issued by the employer for that purpose.
16.	Project Completion Period	<b>Total Twenty One (21) Months:</b> Two (2) months for Survey, Planning, Investigation including Geotechnical Investigation, Detailed Engineering, Design & Drawings; One (1) month for approvals Drawings and other statutory approval/ clearance from appropriate

S No	DESCRIPTION	DETAILS
		<p>Authorities/ Agencies;</p> <p>Eighteen (18) months for Procurement, Construction, Installation, Testing and Commissioning.</p> <p>The Contractor shall ensure beach formation and restoration of the Lighthouse Beach area by adopting the off-shore Geotube based protection measure only. Study of tidal current aimed to design the Geotube based off-shore coastal protection measure shall be a parallel activity, which shall start from Commencement Date.</p>
17.	Performance Security	5.0% of the contract price for works and 5.0% of the O&M cost for O&M as specified in Volume-I RFP, Clause 2.1.9.
18.	Security Deposit (Retention Deposit)	2.5% of the gross amount of each bill of value of work done.
19.	Defects Notification Period	5 Years for Civil Works and 3 Years for Electrical, Mechanical, Plumbing and Electronics works from date of issuance of Taking Over certificate.
20.	Operation & Maintenance Period	<p>Fifteen (15) years from date of issuance of Taking Over Certificate as per GCC.</p> <p>O&amp;M agreement shall be signed between the Department of Tourism, GoK and the Contractor as per the tender conditions for O&amp;M period.</p>
21.	Validity of Bid/Tender	120 (One Hundred and Twenty) days
22.	Last date & time of Procurement / download of tender Document	<p>03.12.2024 up to 11:00 AM</p> <p>The Bidder must officially procure/ download the tender documents from the portal of WAPCOS Limited, CPPP and E Tender Kerala before the last date and time of sale of tender document in order to bid.</p>
23.	Last date & time for online submission of Technical & Financial Bid.	03.12.2024 up to 04:00 PM
24.	Online opening of Technical Bid	04.12.2024 up to 04:00 PM
25.	Online opening of Financial Bid	<p>After Evaluation of The Technical Bid</p> <p>Date and Time of opening will be intimated to the Technically Qualified Bidder (s)</p>
26.	Employer's Contact information	<p>Regional Manager- Kerala</p> <p>WAPCOS Limited</p> <p>1st Floor, JP Krishna Building, Pallimukku, Pettah, Thiruvananthapuram – 695024</p>



S No	DESCRIPTION	DETAILS
		Land Line : 0471- 2998886 Email : <a href="mailto:kochi@wapcos.co.in">kochi@wapcos.co.in</a> , <a href="mailto:wapcoskovalam@gmail.com">wapcoskovalam@gmail.com</a>
27.	Signing of Contract	The Successful Bidder will have to execute an agreement in stamp paper (Government of Kerala) worth 0.1% of the contract agreed amount subjected to a maximum of Rs. 1,00,000/- in the prescribed form. The cost of the requisite stamp paper shall be borne by the successful Bidder.

Note: If the Regional Office of WAPCOS Limited - Kerala, Thiruvananthapuram happens to be closed on the last date and time mentioned for any of the events, the said event will take place on the next working day at the same time and venue.

1.2.1 The estimated capital cost of the Project (the “Estimated Cost”), as mentioned under the Key information Table Clause 1.2 is indicative. The assessment of actual costs, however, will have to be made by the Bidders.

1.2.2 The scope of work broadly includes:

- (i) Planning, detailed design and Engineering, Surveys & Investigation (Pre-Engineering, Pre-Construction and Post-Construction), Procurement, Fabrication, Transportation, Construction (Civil, Structural, Mechanical, Electrical, HVAC, Fire Fighting, STP and other related services) and Installation, Testing, Pre - commissioning, Commissioning and handing over as per the terms of the EPC Contract. The detailed scope is provided in Section VI of this document and Volume- IV: Employer’s Requirement of the Guiding Bidding Documents.
- (ii) 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 of the Project during the Defects Notification Period (DNP), which shall be for period as specified from completion of Construction work and on issuance of Taking Over Certificate
- (iii) Operation & Maintenance for Fifteen (15) years and general conditions are stipulated in Annexure I. O&M period shall start from date of issuance of Taking Over certificate/ Taking Over whichever is later.

### 1.3. BRIEF DESCRIPTION OF BIDDING PROCESS

1.3.1 The Employer has adopted a single stage two cover system (referred to as the "Bidding Process") for selection of the Bidder for 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 first part (Technical Bid) with respect to eligibility and qualifications criteria prescribed in this GBD (the “Bidder”, which expression shall, unless repugnant to the context, include the members of the Joint Venture).

1.3.2 The complete set of Guiding Bidding Documents (GBD) consist of following:

- Volume- I: Request for Proposal (RFP), Notice Inviting e-Tenders (NIT) & Instructions to Bidders (ITB)
- Volume- II: General Conditions of Contract (GCC)
- Volume- III: Particular Conditions of Contract (PCC)
- Volume- IV: Employer’s Requirement
- Volume- V: Tender Drawings
- Volume- VI: Financial Bid
- Any other necessary documents (if any) that is available online at e-tender portal.

1.3.3 The intending Bidder must read the terms and conditions of Notice Inviting e-tender and the Bid documents carefully. The Bidder should submit the Bid only if the Firm considers themselves eligible and is in possession of all the documents required for Bid submission. Intending Bidder is eligible to submit the Bid provided they have definite proof from the appropriate Authority, which shall be to the satisfaction of the Employer, of having satisfactorily completed the works given in the Eligibility Criteria specified in Clause 2.2.

1.3.4 The statements and explanations contained in this RFP are intended to provide a better understanding to the Bidders about the subject matter of this GBD and should not be construed or interpreted as limiting in any way or manner the scope of services 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 Project to be awarded pursuant to this RFP or the terms thereof or herein contained. Consequently, any omissions, conflicts or contradictions in the GBD are to be noted, interpreted and applied appropriately to give effect to this intent, and no claims on that account shall be entertained by Authority / Employer.

1.3.5 Bidders are requested to submit their queries online through email as per the schedule detailed above in Clause 1.2 Key Information Table (KIT) of this document. The bidders need to register on the e-tender portal in order to submit their queries. The registration on the e-tender portal is free of cost. No other queries shall be entertained or replied to. The Employer responses to queries from prospective bidders (including an explanation on the query but without identifying the source of the inquiry) will be uploaded as per the schedule detailed above in Clause 1.2 Key Information Table (KIT) of this document.

- 1.3.6 The Employer shall receive Bids pursuant to this GBD in accordance with the terms set forth herein as modified, altered, amended and clarified from time to time by the Employer (collectively the "Guiding Bidding Documents") and all Bidders shall be prepared and submitted in accordance with such terms on or before the date specified in Key Information Table as per clause 1.2 of the RFP for submission of Bids (the "Bid Due Date").
- 1.3.7 The selected Bidder (the "Contractor") shall be responsible for designing, engineering, procurement and construction including O&M of the Project under and in accordance with the provisions of an Engineering, Procurement and Construction Contract (the "EPC Contract"), which sets forth the detailed terms and conditions for award of the Project to the Contractor, including the scope of the Contractor's services and obligations, 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.
- 1.3.8 The EPC Contract shall set forth the detailed terms and conditions for award of the project to the Contractor, including the scope of the Contractor's services and obligations.
- 1.3.9 The Guiding Bidding Document (GBD) shall form a part of the Contract document. The successful Bidder, on acceptance of their e-tender by the Employer shall, within 21 days from the date of issue of LOA, sign the Contract consisting of all documents stipulated in 1.3.2 forming the e-tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto including amendments, Addenda, Corrigenda, etc., if any. Performance Security shall be submitted by the Contractor before signing the Contract agreement.
- 1.3.10 Completion Period: The total time allowed for carrying out the works will be as mentioned in Clause 1.2 Key Information Table (KIT).
- 1.3.11 Labour
- The selected Bidder has to provide labour camp at his own cost with all the basic amenities and sanitation arrangements as per rules. Labour camp shall not be allowed inside the project area.
  - The Contractor shall solely settle all labour disputes, if any, during the execution of the project.
- 1.3.12 The scope of work envisages a number of specialized Civil / Electrical/ Mechanical / Plumbing/ Electronics Components as required etc. to be executed as integral part of this Contract. The Bidder is expected to have In-house design capabilities to provide the required services as per the scope of work. However, in case the Bidder does not have in house capacity for execution of such component(s) of work and intends to engage outside agency for execution, then

the Bidder shall enter into a Joint venture with specialized agency who has requisite credentials and submit these details along with the Technical Bid.

1.3.13 Canvassing, whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the Bidders, who resort to canvassing will be liable to be rejected.

1.3.14 The Employer does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the Bidder shall be summarily rejected.

1.3.15 The GBD consists of:

- Volume I – Request for Proposal (RFP)- Notice Inviting E-Tenders (NIT) & Instructions to Bidders (ITB): This RFP comprises the Disclaimer set forth herein above, the contents as listed below, and will additionally include any addenda issued in accordance with Clause
  - Section I: Introduction
  - Section II: Instruction to Bidders (ITB)
  - Section III: Evaluation of Bids
  - Section IV: Fraud and corrupt practices
  - Section V: Miscellaneous
  - Section VI: Scope of Work
  - Section VII: General Conditions and Regulations for O&M
  - Annexure – I: Check List of Documents
    - Form “A” Format for Form of bid
    - ADDON to Form A
    - Form “T-1” (Financial Information)
    - Form T-1-B (Format for Solvency Certificate)
    - Form T-1-B-1 (Form for Certificate of Net Worth)
    - Form “T-2” (Details of Eligible Similar Nature of Works Completed in Last Seven Years Ending Previous Day of Last Date of Submission of Bid)
    - Form “T-3” {ADDON to Form “T-2”} Performance Report of Works Referred to in Form “T-2”
    - Form “T-4” (Structure & Organization)
    - Form “T-5” (GST Registration Details)
    - Form “T-6” List of Key Personnel
    - Form “T-7” {ADDON to Form “T-6”} Format for CVs of Key Personnel
    - Form “T-8” {ADDON to Form “T-6”} List of Sub-Contractors
    - Form “T-9” Contractor’s Equipment
    - Form “T-10” Project Under Execution or Awarded
    - Form “F-1” (Information Required to calculate the Bid Capacity)
    - Form “B” Format for Performance Security

- Form “C” Draft Agreement for EPC Tender
- Form “D” Power of Attorney for Signing of Proposal for Authorized Signatory
- Form “E” Affidavit duly notarized on non-judicial of appropriate value-stamp paper
- Form “F” Undertaking
- Form “G” Format for Advance Bank Guarantee for Mobilization Advance
- Form -“H” Format for No-Conviction Certificate
- Form- “I” Format for understanding the project site
- Form- “J” Format for No Deviation Certificate
- Form- “K” List of Equipment Owned by the Bidder at the time of bidding
- Form-“L” Format for Joint Venture Agreement
- Form “M” Format for Undertaking Specialized Works
- Form “N” Format for MOU/ Agreement for Joint Venture
- Form “O” Form of Integrity Pact
- Form “P” Format for Performance Security for O&M
- Form “Q” Draft Agreement for O&M Period
- All guiding bid documents along with corrigendum/ addendum (if any)/ pre-bid clarifications (if any) digitally signed by the authorized person of the bidder
- Volume II – Draft Agreement and General Conditions of Contract (GCC)
- Volume III – Particular Conditions of Contract (PCC)
  - Part A - Contract Data
  - Part B - Special Provisions
  - Part C - Environmental and Social (ES)
  - Part D - Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment
  - Schedules
- Volume IV – Employer’s Requirement
  - Project Overview
  - Scope of Work
  - Makes of Materials
  - Brief List of Drawings
  - Contractor’s Representative and Key Personnel
  - Payment Schedule
  - Annexure A - Preamble to Financial Bid
  - Annexure B – Geotechnical Reports
- Volume V – Tender Drawings
- Volume VI – Financial Bid
- All amendments (corrigenda/ addenda), if any.

## **SECTION II INSTRUCTIONS TO BIDDERS**

### **2.1 GENERAL TERMS OF BIDDING**

- 2.1.1 The scope of work is for execution of the Project in “Engineering, Procurement and Construction” (EPC) mode, which shall include architectural design, structural design and design of all other required services, obtaining statutory clearances and approvals from local bodies/ authorities required for commencing the work, execution of work & services and handing over the assets after completion in all respects to the satisfaction of the Employer. In addition to execution in EPC mode, the work includes rectification of defects during Defects Notification Period (DNP) and also Operation & Maintenance (O&M) of Facilities along with electrical equipment, consumables, any spares for a period of 15 (fifteen) years from the date of Taking Over Certificate and taking over. The details of scope of work are provided in Section VI of the document and Volume IV – Employer’s Requirement of the Guiding Bidding Documents.
- 2.1.2 In case a Bidder firm/ company possesses the requisite experience and capabilities required for undertaking the required works it may participate in the Selection Process either individually (the “Sole Firm/ Company”) or as lead member of a Joint Venture (the “Lead Member”) in response to this invitation. The manner in which the Bid is required to be submitted, evaluated and accepted is explained in this RFP.
- 2.1.3 No Bidder shall submit more than one Bid for the Project. A Bidder bidding individually or as a member of a Joint Venture shall not be entitled to submit another Bid either individually or as a member of other Joint Venture, as the case may be.
- 2.1.4 The Employer may issue addenda / corrigenda to the GBD which will be deemed to form part of the Bidding Documents. The Bidders who have downloaded the GBD from website must visit the website and ensure that such addenda / corrigenda, if any, are also downloaded by them. It shall be the responsibility of the prospective registered Bidders to check the web site for any such corrigenda / addenda at the time of closing time of the GBD and ensure that the Proposal submitted by them is in accordance with all the corrigenda / addenda. Suitable time extension (not less than 3 days beyond the date of last corrigenda / addenda) shall be granted to the prospective Bidder to prepare an informed bid for submission.
- 2.1.5 The Bidders are advised to submit their online Bid in the prescribed format well before the Bid Due Date specified in Key Information Table provided under Clause 1.2 of the GBD Document. Notwithstanding anything to the contrary contained herein on the GBD document, time being displayed on e-procurement portal of GoK / GoI (“Standard Time”) and website of WAPCOS Limited shall be final and binding on the Bidder. Proposals are required to be submitted online by the Bidders only as per the Indian Standard Time (IST). The Employer shall not be responsible for any delay in submission of online Proposal for any reason including server and technical problems.

- 2.1.6 The Bidders shall examine the Project in greater detail, and to carry out, at their cost, their own surveys, investigations and other detailed examination of the Project before submitting their Bids for award of the contract including implementation of the Project specified in this Section of the GBD. The Technical Bid shall be furnished in the formats exactly as defined in Annexure I and the Financial Bid as defined in the Volume VI: Financial Bid, and signed by the Bidder's authorized signatory. Upon selection, the Bidder shall be required to enter into an agreement with the Employer in the format as per Form C as specified in Volume I.
- 2.1.7 The Bid shall remain open for acceptance for a period of 120 (One Hundred and Twenty) days from the last date of submission of bid (Bid Due Date) or any extension thereto. If any bidder withdraws his bid before the said period or issue of Letter of Award (LOA), whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the Employer, the Bid Security amount will be forfeited.
- 2.1.8 E-Tender Fee and Bid Security: E-Tender Fee: Interested Bidder who wishes to participate in the Bid has to make online payment as specified in the Key Information Table, Clause 1.2 above, towards the E-tender Fee. E-tender Fee is non-refundable.  
Bid Security: Interested Bidder who wishes to participate in the Bid has to make online payment as specified in the Key Information Table, Clause 1.2 above, towards Bid Security. No exemption for Bid Security is allowed. Bid Security is refundable after finalization of tender. The Bid security may be extended as mutually agreed between the Authority/ Employer and the Bidder from time to time. The Bid shall be summarily rejected if it is not accompanied by the Bid Security.
- 2.1.9 The Bidder, whose tender is accepted, will be required to furnish Performance Security as specified below:
- The Performance Security shall be the sum equivalent to 5.0 % of the Contract Price and 5.0 % of the O & M cost for the O & M. At least 50% of the Performance Security shall be in the form of Treasury fixed deposit as per G.O(P)No.429/15/Fin dated 28.09.2015. The successful bidder can submit balance of the Performance Security in the form of a Bank Guarantee issued by a Nationalized bank or a Scheduled Bank in India. This Bank Guarantee shall be in favor of the Employer as per Form B of Annexure I.
- Performance Security for O&M period as per Form P shall be submitted 1 month prior to issue of Taking Over Certificate. The same shall be in favor of the Authority.
- Additional Security Deposit/ Bank Guarantee is applicable in case of abnormally low bids/ unbalanced bids."
- 2.1.10 The Bidder whose Bid is accepted will also be required to furnish either copy of applicable licenses/ registration or proof of having made application for obtaining labour licenses, registration with EPFO, ESIC and BOCW, Welfare Board including Provident Fund Code No., if applicable and also ensure the

compliance of aforesaid provisions by the sub-agencies, if any engaged by the Contractor for the said work and Program Chart (time and progress) within the period specified in Clause 1.2 KIT, of this document.

- 2.1.11 The Bidders are advised that the selection shall be based on selection process specified in this RFP. Bidders shall be deemed to have understood and agreed that no explanation or justification for any aspect of the Selection Process will be given and that the Employer's decisions are acceptable without any right of appeal whatsoever.
- 2.1.12 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 maintenance and rectification of any defect or deficiency in the Project after completion of the Construction Period shall be pre-determined, and are specified in the draft Agreement forming part of the GBD.
- 2.1.13 In the event that the Employer rejects or annuls all the Bids, it may in its discretion, invite all Bidders to submit fresh Bids hereunder.
- 2.1.14 Other details of the process to be followed under this bidding process and the terms thereof are spelt out in this RFP.
- 2.1.15 Any award of Project pursuant to this RFP shall be subject to the terms of Guiding Bidding Documents.
- 2.1.16 The GBD is not transferable.
- 2.1.17 Any entity, which has been barred by the Central/ State Government, or any entity controlled by it, from participating in any project, and the bar subsists as on the date of Application, would not be eligible to submit the Bid, either individually or as member of a Joint Venture. The Bidder shall provide an undertaking to that effect.
- 2.1.18 A Bidder shall be liable for disqualification if the Bidder, its Members or any Associate thereof engages any legal, financial or technical adviser of the Employer in relation to the Project, as the case may be, in any manner for matters related to or incidental to such Project during the Bidding Process. In the event any such adviser is engaged by the Selected Bidder or the Contractor, as the case may be, after issue of the LOA or execution of the Contractor Agreement for matters related or incidental to the Project, then notwithstanding anything to the contrary contained herein or in the LOA or the Contract Agreement and without prejudice to any other right or remedy of the Employer, which may have there under or otherwise, the LOA or the Contractor Agreement, as the case may be, shall be liable to be terminated without the Employer being liable in any manner whatsoever to the Successful Bidder for the same. For the avoidance of doubt, this disqualification shall neither apply where adviser was engaged by the Bidder, its Member or Associate in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of the GBD for the Project nor will this disqualification apply where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.



- 2.1.19 A Bidder, including any Member in case the Bidder is in Joint Venture, should, in the last 3 (three) years, have neither failed to perform on any Contract, as evidenced by 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.
- 2.1.20 The Bidder, including any Member of Joint Venture, should provide details of all their on-going projects along with stage of litigation, if so, against the Employer/ Governments.
- 2.1.21 The Bidder, including any Member of the Joint Venture, should also provide details of on-going process of blacklisting if so, under any contract with Employer/ Government.
- 2.1.22 In case the Bidder is in Joint Venture, it shall comply with the following additional requirements:
- a. Number of members in a Joint Venture shall not exceed 3 (three);
  - b. Subject to the provisions of clause (a) above, the Bid should contain the information required for each Member of the Joint Venture;
  - c. Members of the Joint Venture shall nominate one member as the lead member (the "Lead Member"). Lead Member shall meet 50% requirement of financial capacity required as per Clause 2.3 and 2.4. The nomination(s) shall be supported by a Power of Attorney and agreement as per Form Q of Annexure I.
  - d. the Bid should include a brief description of the roles and responsibilities of individual members, particularly with reference to financial, technical and defect Notification obligations;
  - e. The nominated Lead member shall remain unchanged during the entire period of project execution and the O&M period of 15 years.
  - f. An individual Bidder cannot at the same time be member of a Joint Venture applying for this Bid. Further, a member of a particular Joint Venture cannot be member of any other Joint Venture applying for this bid;
  - g. Member of the Joint Venture shall have entered into a binding Joint Bidding Agreement, substantially in the form specified at Form "N" of Annexure I ("Joint Venture Agreement"), for the purpose of making the Bid and submitting a Bid. The Joint Bidding Agreement, to be submitted along with the Application, shall, inter alia:
    - (i) convey the intent to form a Joint Venture, which would enter into the Contract Agreement and subsequently carry out all the responsibilities as the "Contractor" in terms of the Contract Agreement
    - (ii) convey the commitment(s) of the Lead Member in accordance with this RFP, in case this contract is awarded to the Joint Venture; and clearly outline the proposed roles & responsibilities, if any, of each member
    - (iii) commit the approximate share of work to be undertaken by each member ;
    - (iv) include a statement to the effect that all members of the Joint Venture shall be liable jointly and severally for all obligations of the Contractor in

relation to the Project until the completion of the Project and O&M period; and

- h. Except as provided under this RFP, there shall not be any amendment to the Joint Bidding Agreement.

2.1.23 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 5 (five) years or 1 (one) year, as the case may be, preceding its latest financial year. For the avoidance of doubt, 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.

2.1.24 Notwithstanding anything to the contrary contained in this GBD, 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.

2.1.25 The latest CPWD/ MoRD/ CPHEEO specifications/ PCB circulars and BIS/ IS codes and the relevant sections of the National Building Code, PWD Manual, PWD Quality Control Manual, PWD Quality Control Laboratory Manual etc. shall be considered for Planning, detailed design and Engineering, Surveys & Investigation (Pre- Engineering, Pre-Construction and Post-Construction), Procurement, Fabrication, Transportation, Construction (Civil, Structural, Mechanical, Electrical, HVAC, Fire Fighting, STP and other related services) and Installation, Testing, Pre - commissioning, Commissioning and handing over as per the terms of the EPC Contract.

## **2.2 ELIGIBILITY CRITERIA**

2.2.1 The intending bidder must read the terms and conditions of Notice Inviting e-tender and the Bid documents carefully. The prospective Bidder should submit the bid only if the Bidder assesses themselves to be eligible and they are in possession of all the documents required. Intending bidder is eligible to submit the Bid provided they have definite proof from the appropriate authority, which shall be to the satisfaction of the Employer, of having satisfactorily completed the works given in the Eligible Assignments specified in this Clause 2.3.

2.2.2 Bidders established in India and operating under the laws of India, who fulfill the following requirement shall be eligible to apply. Joint Venture is also permitted subject to the conditions set out in this tender document as per Clause 2.3.

- a) The Bidder (individually or as a Joint Venture) shall be in active business for the last 5 (Five) years and shall submit relevant documentary evidence for the same as specified in Clause 2.4.
- b) The Bidder should have the experience of having successfully completed the works, as defined in Clause 2.3 during the past 7 years ending last day of month previous to one in which tenders are invited. For this purpose, estimated cost of work shall mean gross value of the completed work including cost of material supplied by the respective / Employer but excluding those supplied by the Client /Employer free of cost:

- c) The experience claimed by the Bidder in specific works should be in the name of the bidding entity and not in the name of a subsidiary / associate company / Group Entity, etc.
- d) The Bidder should submit a declaration that eligible works(s) as mentioned in eligibility criteria has / have not been got executed through another contractor on back-to-back basis. Bidder shall submit duly notarized affidavit to this effect, as per prescribed format (Form “E”).
- e) The Bidder should be registered under company act 2013 as Limited/ Private Limited or Proprietorship/Partnership firm or Registered Cooperative Society/ Corporation or Individual. Relevant proof of registration shall be submitted by the bidder.
- f) The Bidder shall submit only one bid in the same bidding process, either individually as a Bidder or as a partner in a Joint Venture. A Bidder (either as a firm or as an individual or as a partner of a firm) who submits or participates in more than one bid, will cause all the proposals in which the Bidder has participated to be disqualified.
- g) A Bidder should not have been blacklisted / debarred / penalized from bidding by any Central / State Government Department / Autonomous Government Body / Central or State PSU as on the last date of submission of the bid (including amendments if any).
- h) The Bidder shall have a valid GST registration. The copy of GST registration shall be submitted.
- i) The Bidder shall have valid ESI and EPF registration. The copy of the valid ESI and EPF registration shall be submitted.
- j) The Bidder shall submit ITR details for the last five financial Years along with the bid.

2.2.3 For the purposes of satisfying the Conditions of Eligibility and for evaluating the Bids, experience of the Bidder for the following projects shall be deemed to be the “Eligible Assignments”.

## 2.3 ELIGIBLE ASSIGNMENTS

- a) Experience should be in construction sector and should have successfully completed / commissioned in the name of the bidding company(s). In case of Joint Venture, experience of all members shall be considered-
- b) Experience of having successfully completed the Similar Works\*\* during the last 7 years ending last day of month previous to one in which tender is invited. For this purpose, cost of work shall mean gross value (excluding GST) of the completed work including cost of material supplied by the respective Client but excluding those supplied by the Client free of cost:

One similar completed work costing not less than the amount equal to 80% of Estimated Cost of this project.

OR

Two similar completed works costing not less than the amount equal to 50% of Estimated Cost of this project.

OR

Three similar completed works costing not less than the amount equal to 40% of Estimated Cost of this project.

And

- c) Execution of Diaphragm wall of length at least 200 m satisfactorily completed for Central Government/ State Government Department/ PSUs.

***\*\*Similar Works means,***

Infrastructure Development Projects satisfactorily completed for Central Government/State Government Department/PSUs or Private Organizations/client. However, the work should have been undertaken by the Bidder as the Principal Contractor and not as sub-contractor. Infrastructure refers to List of Sub-sectors for infrastructure lending by Reserve Bank of India vide no. RBI/2013-14/378 DBOD.BP. BC No.66/08.12.014/2013-14, dated Nov 25, 2013. Satisfactorily completed means the project has achieved 100% physical progress and at least 90% financial progress of the contract value -original or modified as the case may be.

Copy of Taking Over certificate signed by an officer not below the rank of Executive Engineer or equivalent needs to be submitted for both (c) and (d) above.

For claiming experience for Similar Works and Diaphragm Wall undertaken in other countries, the bidder needs to submit verifiable evidence/ certificates that include the contact details of the certifying authority such as telephone number, email id and proper address. The employer reserves the right to verify the document submitted by the bidder. In case during verification, no response is received from the agency, such experience may not be considered as eligible.

In case, the Bidder does not have the experience of Design, the bidder can enter into a Joint Venture with reputed agency/agencies in order to meet the technical eligibility. The bidder (lead member) has to solely meet the required financial eligibility criteria vide Clause 2.4. A Joint Venture agreement (as per Form N) in this regard should be submitted. The validity of Joint Venture shall be till completion of the O&M period. No. of Joint Venture members is to be limited to three (3).

The value of executed works shall be brought to current costing level by enhancing the actual executed value of work at simple interest rate of 7% per annum; calculated from the date of completion to previous day of last date of submission for bids.

Own works/ work under the same management / own certification of the Bidder shall not be considered.

The Bidder shall quote experience in respect of a particular Eligible Assignment under any one category only, even though the Bidder (either individually or along with a member of the Joint Venture) may have played multiple roles in the cited project. Double counting for a particular Eligible Assignment shall not be permitted in any form.

Experience for any activity relating to an Eligible Assignment shall not be claimed by two or more Members of the Joint Venture. In other words, no double counting by a Joint Venture in respect of the same experience shall be permitted in any manner whatsoever.

## **2.4 FINANCIAL ELIGIBILITY**

**a) Turnover:** Average annual financial turnover from construction works should be at least 50% of Estimated Cost during the immediate past three consecutive financial years ending 31st March, 2023. Duly filled Form T1 along with balance sheets, Statement of Profit & Loss Account and Notes to Accounts should be duly audited and certified by a Chartered Accountant/ Statutory Auditor with his seal and signatures along with registration number and UDIN. The year in which no turnover is shown, would also be considered for working out the average. The turnover should be of the Bidding entity and not for Group Company or subsidiary company etc. In case of a Joint Venture, the Lead Member should meet minimum 50% of this criterion. The above information pertaining to Financial Eligibility of the Bidder shall be provided as per the format (Form T-1) duly certified by a Statutory Auditor / Chartered Accountant.

- The Bidder shall provide audited financial reports for the last five financial years.
- Bids submitted without the certificate of Statutory Auditor / Chartered Accountant and the audited financial reports for the last five years shall not be considered for evaluation.

**b) Profit / Loss:** The Bidder should not have incurred any loss (profit after tax PAT, should be positive) in more than two years during the last five consecutive financial years ending 31st March, 2023, duly certified and audited by the Chartered Accountant/ Statutory Auditor. In case of a Joint Venture, all members should individually meet this criterion.

**c) Solvency Certificate:** The Bidder should submit a minimum solvency of 40% of EC issued by Nationalized/ Schedule commercial bank as per latest RBI list for this project. The Bidder shall check the Technical Bid criteria in Form T-1B for solvency certificate before submission. In case of a Joint Venture, the Lead Member should meet the 50% of the Financial Eligibility criteria.

Solvency certificates (as prescribed in Form T-1 B) in the current financial year dated after publication of this NIT, should be issued on the letter head of the Bank, addressed to tender inviting authority clearly quoting the name of this project. The solvency issued between the publishing date of NIT for this work

and last date of submission of bids including extensions if any for previous tenders shall also be accepted

**d) Bid Capacity:** The Bidder who inter alia meet the minimum qualification criteria will be qualified only if their available Bid Capacity is more than the Total Tendered Value. The available Bid Capacity will be calculated as per following based on information mentioned enclosed in the Bid Format for Bid Capacity. In case of a Joint Venture, the Lead Member should meet the minimum 50% of this criterion.

**e) Assessed available Bid Capacity**  $= (A \times N \times 2 - B)$ , Where

N = Number of years prescribed for completion of work for which Bid is invited

A= Maximum turnover (as per Form T-1) in construction works executed in any one year during the last five years (updated to the price level of the year indicated in table below under note) taking into account the completed as well as works in progress. The Projects include turnkey project/ EPC/ Item rate contract/ Construction works.

B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bid has been invited.

Year	Year 1	Year 2	Year 3	Year 4	Year 5
Updation Factor (UF)	1.00	1.05	1.10	1.15	1.20

The Bidder shall submit the value of existing commitments and ongoing works as above duly signed by a Chartered Accountant/ Statutory Auditor with his seal and signatures along with registration number.

The Bidder shall submit the bidding capacity 'Form-F1' attached along with this tender. In case of a Joint Venture, the Lead Member should meet minimum 50% of this criteria.

## 2.5 DISQUALIFICATION

Even if a bidder meets the eligibility criteria as per 2.2, 2.3 and 2.4, they shall be subject to disqualification if he or any of the constituent partners is found to have:

- Made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/ or
- Records of poor performance during the last five years, as on the date of application, such as abandoning the work, rescission of the contract for reasons which are attributable to non-performance of the contractor, inordinate delays in completion, consistent history of litigation resulting in awards against the contractor or any of the constituents, or financial failure due to bankruptcy, and so on. The rescission of a contract of Joint Venture on account of reasons other than nonperformance, such as the most experienced partner (Lead member) of Joint Venture member pulling out

- c) On account of currency of debarment by any Government agency.

## **2.6 COST OF BIDDING**

- 2.6.1** The overall Master Plan, scheme and Engineering designs are for guidance only and the Authority/ Employer does not own any liability in the Project. It is the entire responsibility of the Bidder to verify the scheme and design for the requirement based on the input and output quality parameters given in the Guiding Bidding Documents. It is therefore, responsibility of the Bidder to visit the site and assess the resources, in order to be more practical and competitive.
- 2.6.2** Not limiting to the Volume- IV: Employer's Requirement defined in the guiding bidding document, the Bidder has to ensure that they have considered all the items that are required for the execution of the Project to ensure the desired results within the quoted price.
- 2.6.3** The Bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bidding 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.

## **2.7 SITE VISIT AND VERIFICATION OF INFORMATION**

- 2.7.1** The Bidder is solely responsible for the preparation, correctness and details of their Bid.
- 2.7.2** The Bidder is expected to examine carefully all the contents of Guiding Bid Document as mentioned and take them fully into account before submitting his bid. Bids, which do not satisfy all the requirements, as detailed in these documents, are liable to be rejected as being non - responsive.
- 2.7.3** The Bidder is to submit their respective Bids after visiting the Project site and ascertaining for themselves the site conditions, location, surroundings, climate, availability of power, water & other utilities for construction, access to site, handling and storage of materials, weather data, applicable laws and regulations and any other matter considered relevant by them.
- 2.7.4** The Bidder shall be deemed to have inspected the Site and its surroundings existing facilities, services & utilities and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil, the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender and taken into account all relevant factors pertaining to the Site, while preparing and submitting the Bid.
- 2.7.5** The Bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The Bidder shall be responsible for arranging and

maintaining at its own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a Bid by a Bidder implies that they have read this notice and all other contract documents and has made themselves aware of the scope and specifications of the work to be done and other conditions, factors etc. having a bearing on the execution of the work.

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

- a) Made a complete and careful examination of the Bidding Documents;
- b) Received all relevant information requested from the Employer;
- c) Inspected the Site and its surroundings and taken into account all relevant factors pertaining to the Site, while preparing and submitting the Bid.
- d) Accepted the risk of inadequacy, error or mistake in the information provided in the Guiding Bidding Documents or furnished by or on behalf of the Employer relating to any of the matters referred in the guiding bidding document. No claim shall be admissible at any stage on this account.
- e) Satisfied itself about all matters, things and information including matters referred to in the guiding bidding documents herein above necessary and required for submitting the bid, execution of the Project in accordance with the Guiding Bidding Documents and performance of all of its obligations there under;
- f) Acknowledged and agreed that inadequacy, lack of completeness incorrectness of information provided in the Guiding Bidding Documents shall not be a basis for any claim for compensation, damages, 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 Bidder;
- g) Acknowledged that it does not have a Conflict of Interest that affects the Bidding Process. Any Bidder found to have Conflict of Interest shall be disqualified and liable for forfeiture of the Bid Security or the Performance Security, as the case may be. A Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:
  - i. The Bidder (or any constituent thereof) and any other Bidder, 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 any shareholder thereof having a shareholding of more than 5% (five percent) of the paid up and subscribed share capital of such Bidder, in the other Bidder, is less than 5% (five percent) 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 2013. For the purposes of this Clause 2.7.2, 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 (aa) 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 (bb) 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
- ii. a constituent of such Bidder is also a constituent of another Bidder; or
- iii. Such Bidder, or any of its Joint Venture Member thereof receives or has received 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
- iv. Such Bidder has the same legal representative for purposes of this Application as any other Bidder; or
- v. 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 Application of either or each other; or
- vi. Such Bidder or any of its Joint Venture Member thereof has participated as a consultant to the Authority/ Employer in the preparation of any documents, design or technical specifications of the Project.
- vii. Agreed to be bound by the undertakings provided by it under and in terms hereof.

**2.7.7** 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, Guiding Bidding Documents or the Bidding Process, including any error or mistake therein or in any information or data given by the Employer.

## **2.8 VERIFICATION**

- 2.8.1** The Employer reserves the right to verify all statements, information and documents submitted by the Bidder in response to the RFP and the Bidder shall, when so required by the Employer, make available all such information, evidence and documents as may be necessary for such verification. 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 there under.
- 2.8.2** The Employer reserves the right to reject any Bid and appropriate the Bid Security if:
- 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.
- 2.8.3** Such misrepresentation/ improper response shall lead to the disqualification of the Bidder.
- 2.8.4** In case it is found during the evaluation or at any time before signing of the Agreement or during execution, subsistence thereof, the Bidder has made 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 GBD, be liable to be terminated, 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.

## **2.9 BID PRICE**

- 2.9.1** The Lump sum price quoted by the Bidder for Bid Price in financial Bid shall include all the components mentioned in Volume-IV Scope of Work clause-1.2, subclause-1.2 including, designing, supply & erection of civil, electrical, mechanical and miscellaneous items for completing all the works as defined Volume- IV Employer's Requirement, including remedying any defects therein up to the end of the Defects Notification Period (DNP) and O&M for Fifteen (15) years whichever is later.

- 2.9.2** The Bidder shall quote further breakdown of Lump sum costs, the Component Wise Breakup of the Volume- VI Financial Bid.
- 2.9.3** The lump sum offer shall provide for all superintendence, labour, material, plant, equipment and all other things required for work including all taxes duties, royalties, and such other charges except for the exemptions provided for in the Contract.
- 2.9.4** The Bidder shall quote the O&M cost the format provided in Volume- VI Financial Bid.
- 2.9.5** “Prices quoted by the Bidder shall be fixed during the Bidder’s performance of the Contract and not subject to variation on any account, for goods and services except as provided in the Contract. Price Adjustment is applicable for O&M cost is in accordance with Table-2 of Appendix – 2 Schedule of Payments (revised as per this corrigendum). For all goods and services covered in this RFP, prices shall be quoted in Indian Rupees only and payments shall be made in Indian currency only directly by the funding agency on the Employer’s recommendation.
- 2.9.6** For conducting Study of tides & tidal currents and Design and Execution/Construction of Geotube based off-shore coastal protection measures for Lighthouse Beach
- 2.9.7** For conducting Study of tides & tidal currents, the bidder may engage reputed agencies having experience in similar nature of studies such as NIOT, NCCR, IITs etc.

## **2.10 CLARIFICATION AND PRE-BID MEETING**

- 2.10.1** A prospective Bidder requiring any clarification with regards to the guiding Bid document may submit their queries in accordance with the Clause 1.2
- 2.10.2** The Employer shall endeavor to respond to queries raised or clarifications sought by the Bidders within the stipulated time without identifying the source of queries. Only the communication/ clarification that are submitted upto 10 days after the pre- bid meeting will be considered.
- 2.10.3** 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.
- 2.10.4** 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 Guiding Bidding Documents. Verbal clarifications and information given by Employer or its employees or representatives shall not in any way or manner be binding on the Employer.

**2.10.5** Only those authorized persons who have downloaded the online e-GBD documents or their representatives shall be allowed to participate in the Pre-Bid Conferences. A maximum of two (2) representatives of each Bidder shall be allowed to participate on production of authorization letter from the original Bidder.

**2.10.6** During the course of Pre-Bid meeting(s), 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.

## **2.11 CONFIDENTIALITY**

The Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. The document including this RFP and all attached documents, provided by the Employer are and shall remain or becomes 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.

## **2.12 AMENDMENT OF GBD**

**2.12.1** At any time prior to the Bid Due Date, the Employer may, for any reason, whether at its own initiative or in response to clarifications or queries requested by a prospective Bidder, modify the GBD by the issuance of an Amendment(s) an Addendum(s) / Corrigendum(s).

**2.12.2** The said amendments in the form of Addenda/ Corrigenda issued hereunder will be in writing and shall be uploaded to the website / e-portals. at least three (3) days prior to the last date of the original or extended deadline for the submission of the bids. The uploading of the said amendment(s) ((addenda/ corrigenda) shall be binding on the bidders. The Bidders are advised to regularly visit above mentioned website to ensure that they are aware of the amendment(s) (addenda/ corrigenda). The amendment(s) (addenda/ corrigenda issued will form part of the Bid documents.

**2.12.3** In order to provide the prospective Bidders a reasonable time for taking such amendments (addenda/ corrigenda) into account, or for any other reason, the Employer may, in its sole discretion, extend the Bid Due Date.

## **2.13 PREPARATION AND SUBMISSION OF BID**

### **2.13.1 Format and signing of Bid**

The Bidder shall provide all the information sought under this RFP. The Employer will evaluate only those Bids that are received in the required formats and complete in all respects. The completed Bids shall be submitted by the scheduled time and date as provided in the Clause 1.2 by uploading on E-Procurement portal GoK in a single stage two-cover system as follows:

- a) Technical Bid along with the documents/ information as provided in Annexure I
- b) Financial Bid in the format as specified in Volume VI.

**2.13.2** The Bid shall be submitted online strictly in accordance with the Instructions to Bidders, terms and conditions given in the RFP document.

**2.13.3** The Bidder may submit his Bid online following the instructions appearing on the screen. The detailed guidelines for e-procurement is also available on e-procurement portal.

**2.13.4** The e-tender documents shall be uploaded online in two (2) covers:

- a) Cover-1 shall contain Scanned copies of Technical Bid.
- b) Cover -2 shall contain Financial Bid on the prescribed format.

**2.13.5** Bidders are particularly advised to fill in the details asked for, strictly in the prescribed forms. Bidders are liable to be rejected if relevant details are not furnished as per enclosed formats and also which do not meet the pre-qualification requirement as specified in the tender notice. The Bidder may furnish along with his Bid any additional information that in his opinion will highlight his capability to successfully complete the envisaged work. He is, however advised not to furnish superfluous information. No information shall be entertained after submission of eligibility criteria document unless it is called for by the Employer.

**2.13.6** All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even, if no information is to be provided in a column, a "Nil" or "no such case" entry should be made in that column. If any particulars/query is not applicable in case of the bidder, it should be stated as "Not applicable". The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms (or) deliberately suppressing the information may result in the bid being summarily disqualified. Bid submitted in any other mode than specified and those received later than the specific time will not be entertained.

**2.13.7** Individual pages of the bid submission need not be physically signed, before being scanned and uploaded. While uploading the bid documents, the bidder's proposal would be digitally signed and this would suffice.

**2.13.8** Over writing should be avoided. Corrections if any should be made by neatly crossing out, initialing, dating and rewriting. Pages of the eligibility criteria document are numbered. Additional Sheets if any added by the Bidder should also be numbered. They should be submitted as a package with signed letter of transmittal.

**2.13.9** References, information and certificate from the respective clients certifying technical knowledge or capability of the bidder, etc. should be signed by an officer not below the rank of Executive Engineer or equivalent.

**2.13.10** The Bidder should note the following procedure carefully:

- a) The Bidder should quote his financial quote offer only in Financial Bid.
- b) Bidder should not indicate his cost offer anywhere directly or indirectly in Technical Bid.
- c) The Bidder should quote for the work as per Employer's Requirement.
- d) No delay on account of any cause will be entertained for the late receipt of Bid.
- e) Bid offered or received after the stipulated time limit will either not be accepted and if inadvertently accepted, will not be opened and shall be returned to Bidder unopened.
- f) No page shall be added or removed from the set of tender documents.

**2.13.11** If the Bidder is already registered with e-tendering service provider of the Employer, and validity of registration is not expired the firm / Joint Venture does not require a fresh registration.

**2.13.12** On the date and time specified in the tender notice, following procedure will be adopted for opening of the Bid. Bidders are also requested to follow the online E-tendering procedure and contact details for submission of their Bids.

## **2.14 CONTENTS OF PACKAGES FOR ONLINE BID SUBMISSION**

The bid shall be submitted in two parts i.e. Technical Bid & Financial Bid through online mode only. Following documents/ certificates shall be submitted along with the Technical Bid, without which the Technical Eligibility as well as Financial Eligibility will not be evaluated.

### **A. Part 1: Technical Bid:**

The Technical Bid shall contain the following:

#### **I. Online Non – Refundable Tender Fee**

Interested Bidder who wishes to participate in the Bid has to make online payment as specified in Clause 1.2 Key Information Table at Section I of this document towards the e- tender Fee. E-tender Fee is non–refundable.

#### **II. Bid Security**

- a) The Bidder shall to make online payment as specified in Clause 1.2 Key Information Table of this document towards Bid Security .
- b) Bids not accompanied by Bid Security, shall be treated as non-responsive and will be summarily rejected by WAPCOS Limited.
- c) The Bid Security of the bidder shall be forfeited in case the Bidder withdraw/ modify their bid during the period of validity of their tender or fail to sign the contract or failed to submit the performance Security before the deadline as per the tender document.

#### **III. Other documents/ forms shall be submitted as per ANNEXURE - I: CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE BID.**

## **B. Part 2: Financial Bid**

- a) The financial bid (VOLUME VI – FINANCIAL BID) should be submitted ONLINE only. Physical submission of financial bid will not be accepted and e-tender shall be rejected in such case. The quoted rates should include all costs associated with the Project as per the scope of work till the end of the Defects Notification Period (DNP), including any out of pocket/ mobilization expenses. Quoted rates shall include all prevailing taxes, Building and other Construction Workers welfare cess and any other applicable statutory taxes, levies till the last stipulated date for the receipt of tender including extensions if any, but excluding Goods and Services Tax. In case Government levies/ modifies any tax subsequently, the same shall be considered mutually in consultation with the Employer and the Funding Agency.
- b) The Bidder must ensure to fill up rate against each component of financial bid. If any cell is left blank then value of that cell shall be treated as “0” (ZERO). In event no rate has been quoted for any component(s), it will be presumed that the Contractor has included the cost of this/ these items(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.
- c) However, in respect of GST, where ever legally applicable the same shall be paid by the Contractor to the concerned Authorities as per the prevailing rules. The payment for any bills as per the Contract shall be made for the total value of the works at the contract rate plus the GST @18% at the time of billing. Any variation in tax rate of GST (increase or decrease) after the last date of tender submission shall be adjusted at the time of settlement of bills. TDS and other deductions shall be made on payments excluding GST.
- d) The quoted rates shall also include expenses towards all Quality Control tests prescribed in the IS codes/ PWD Manuals/CPHEEO Manual and Central/State Pollution Control Board Standards or as directed by the Employer and to be done at Government/ Aided Engineering Colleges or Polytechnic Colleges or NABL Accredited laboratories.
- e) The quoted rates shall includes dismantling, if any, of the required services and utilities falling in the project area and supporting/ shifting & making functional existing utilities and services (sewerage, Electrical transmission & Distribution lines and water supply lines etc.)

### **2.15 LANGUAGE OF BID**

The Bid and all related correspondence and documents relating to the Project shall be in English language only.

### **2.16 CURRENCY OF BID**

The Bid prices shall quote in Indian Rupees only. The amount mentioned elsewhere in the RFP/ GBD will also deemed to be in Indian Rupees unless otherwise mentioned.

## **2.17 FORMAT AND SIGNING OF BID**

- a) The Bid documents (Technical Bid and Financial Bid) shall be digitally signed by a person duly authorized to sign the Bid documents. The Bidder shall also submit a Power of Attorney authorizing the person signing the documents.
- b) Entries to be filled in by the Bidder shall be typed or written in indelible ink.
- c) All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

## **2.18 SUBMISSION OF BIDS**

The mode of submission of Technical Bid and Financial Bid is online. The last date for submission of completed Bids is given in Notice Inviting e-Tender. The Employer may at their discretion, extend this date, in which case all rights and obligations of the Employer and the Bidder shall thereafter be subjected to the new deadline as extended. If such nominated date for submission of Bid is subsequently declared as a public holiday, the next official working day shall be deemed as the date for submission of Bid. The Bidder may require to present Original documents as per the requirement of the Employer during the tendering process.

Employer shall not take any cognizance and shall not be responsible for delay/loss in transit or non-submission of said documents in time.

## **2.19 POWER OF ATTORNEY**

The Bidders shall submit, along with Technical Bid, a Power of Attorney, on a stamp paper of appropriate value, in favor of the person signing the Bid documents authorizing him to sign the Bid documents, make corrections/ modifications thereto and interacting with Employer and act as the contact person. The format for the Power of Attorney shall be as per Form D of Annexure- I. In case Bids are signed by Managing Director/ Partner/ Proprietor himself, Power of Attorney is not required.

In the event of tender being submitted by a partnership firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a Power of Attorney authorizing him to do so, such Power of Attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act 1932.

In the event of tender being submitted by a Limited company or a corporation, it must be signed by a duly authorized person holding Power of Attorney for signing the application and certified copy of such Power of Attorney shall also be furnished. The Bidder should also furnish a copy of Articles and Memorandum of Association duly attested by a Public Notary.

## **2.20 MODIFICATION/ SUBSTITUTION/ WITHDRAWAL OF BIDS**

**2.20.1** No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date & Time.

**2.20.2** Only a single copy of the withdrawal notice shall be prepared and each page of the notice shall be signed and stamped by the authorized signatory. The notice



shall be duly marked "WITHDRAWAL". This withdrawal notice will be opened at the time of opening of bid and not earlier. The signature of General Power of Attorney (GPA) holder will be verified and withdrawal shall be considered only in case both are same.

**2.20.3** 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.

## **2.21 REJECTION OF BIDS**

**2.21.1** Notwithstanding anything contained in this RFP, the Employer reserves the right to 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 therefore. 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.

**2.21.2** The Employer reserves the right not to proceed with the Bidding Process at any time, without notice or liability, and to reject any Bid without assigning any reasons.

**2.21.3** The Employer reserves the right to reject any Bid if:

a) At any time, a material misrepresentation is made or uncovered;

Or

b) The Bidder does not respond within the stipulated time to requests for supplemental information/ clarifications required and sought by the Employer for the evaluation of the Bid;

Or

c) It is found that the information provided is not true or incorrect or facts/material for the evaluation have been suppressed.

Even if a Bidder meets the Eligibility Criteria (Please refer Clause 2.2 and 2.3), he shall be subject to disqualification if he or any of the constituent partners is found to have:

a) Made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/ or;

b) Records of poor performance during the last five years, as on the date of Bid/ Proposal such as abandoning the work, rescission of the contract for reasons which are attributable to non-performance of the contractor, inordinate delays in completion, consistent history of litigation resulting in awards against the contractor or any of the constituents, or financial failure due to bankruptcy, and so on. The rescission of a contract of venture JV on account of reasons other than non-performance, such as the most experienced partner (major partner) of JV pulling out;

c) On account of currency of debarment by any Government agency.

The Employer reserves the right, without being liable for any damages or obligation to inform the bidder to:

a) Amend the scope and value of contract.

b) Reject any or all the Bids / Proposals without assigning any reason.

## **2.22 CONFIDENTIALITY**

Information relating to the examination, clarification, evaluation and recommendation for the 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 the Bid, in confidence and will require all those who have access to such material to treat the same in confidence.

## **2.23 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. The Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid.

## **2.24 CORRESPONDENCE WITH THE BIDDER**

Except as provided in the GBD, the Employer shall not entertain any correspondence with any Bidder in relation to acceptance or rejection of any Bid.

## **2.25 BID SECURITY**

**2.25.1** Bidder shall furnish as part of its Bid, a Bid Security referred to in Clause 2.1.8.

**2.25.2** Any Bid without the Bid Security shall be summarily rejected by the Employer as non- responsive.

**2.25.3** The Employer will adjust the amount of Bid Security in the amount of Performance Security to be provided by the successful bidder in accordance with the provisions of the Agreement.

**2.25.4** The Employer shall be entitled to forfeit and appropriate the Bid Security as Damages inter alia in any of the events specified in Clause 2.25.5 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.

**2.25.5** 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 as defined in 2.21
- b) If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in Section 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 Bidder(s) 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 LOA; or
  - (ii) to sign the Agreement; or

- (iii) to furnish the Performance Security within the period prescribed therefore in the Agreement; or

In case the Selected Bidder, having signed the Agreement, commits any breach thereof prior to furnishing the Performance Security.

## **2.26 PERFORMANCE SECURITY**

At the time of signing of Contract Agreement, the successful bidder shall furnish to the Employer a Performance Security in accordance with the provisions of the Agreement and in the format given in this RFP at Form "B" and Form "P" in Annexure I. The successful bidder can submit the Performance Security in the form of a Bank Guarantee issued by a nationalized bank or a Scheduled Bank in India in favor of the Employer. The Performance Security shall be sum equivalent to 5.00% of the Contract Price. At least 50% of these Guarantee shall be in the form of Treasury fixed deposit as per As per G.O(P)No.429/15/Fin Dated 28.09.2015. As per G.O.(P)No.7/2021/Fin Dated 07.01.2021, Additional Security Deposit/ Bank Guarantee is applicable in case of abnormally low bids.

## **2.27 BID OPENING**

### **2.27.1 Bid Opening**

- a) The Bids will be opened online in the presence of prospective Bidders or their authorized representatives who may choose to attend on date and time as mentioned in Notice Inviting e-Tender. However, the bidders can view the status of bid opening online by logging on to the e-tender portal from anywhere.
- b) If such nominated date for opening of Bid is subsequently declared as a public holiday, the next official working day shall be deemed as the date of opening of the Bid.
- c) Bids for which an acceptable notice of withdrawal has been submitted shall not be opened.
- d) Bids which have not complied with one or more of the foregoing instructions may not be considered.
- e) On opening of the e-Bid, it will be checked if they contain Technical and Financial Bids and e-Tender Fees paid online, Bid Security as detailed above
- f) Financial Package of all bidders whose bids are found responsive after technical evaluation will be opened at a later date.

### **2.27.2 Determination of Responsiveness**

- i. Prior to evaluation of Bids, the Employer shall determine whether each Bid is responsive to the requirements of this RFP.
- ii. For the purpose of this clause, a Bid may be considered responsive only if:

- a) It is received as per the format at Annexure - I with scanned versions of the same digitally signed wherever required uploaded on the portal;
  - b) It is received by the Bid Due Date including any extension thereof pursuant to Clause 1.2 KIT.
  - c) It is accompanied by the Power(s) of Attorney,
  - d) It contains all the information as requested in the RFP
  - e) It contains information in formats same/ similar as those specified in this RFP
  - f) It mentions the validity period of the Bid
  - g) It is accompanied by the Bid Security declaration
  - h) It conforms to all the terms, conditions and specifications of Tender without material deviation or reservation. "Deviation" may include exceptions and exclusions. A material deviation or reservation is one which affects, in any substantial way, the scope, quality, performance or administration of the works to be undertaken by the Bidder under the Contract, or which limits in any substantial way, Employer rights or the Bidder's obligations under the Contract as provided in Bid and/or is of an essential condition, the rectification of which would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids at reasonable price.
- iii. Any condition or qualification or any other stipulation contained in the Bid shall render the Bid liable for rejection as a non-responsive Bid.
  - iv. The decision of the Employer in this regard shall be final and binding. The financial Packages of non-responsive Bidders shall not be opened.

## **2.28 AWARD OF CONTRACT**

### **2.28.1 Award Criteria**

The Employer will declare the Bidder ranked L-1 as the Successful Bidder considering the total Bid as mentioned in the NIT. The Employer reserves the right to proceed and award the work as a whole for the entire scope of work or de-scoping any part of work and issue Letter of Award (LOA) on these basis as per the procedure mentioned and terms and conditions set out in this RFP.

### **2.28.2 Notification of Award**

Prior to the expiry of the period of Bid Validity, the Employer will issue the Letter of Award (LOA) to the Successful Bidder, notifying him of being declared successful and the intent to sign the Contract Agreement with him. This letter (hereinafter and in the Conditions of Contract called 'the Letter of Award') shall mention the amount which the Funding Agency, KIIFB, will pay to the Contractor on recommendation of the Employer in consideration of the completion and guarantee of the work to be performed by them, as prescribed therein (hereinafter and in the conditions of Contract called 'the Contract Price'). No correspondence will be entertained by the Employer from the unsuccessful Bidders.

The Letter of Award shall constitute a part of the Contract.

### **2.28.3 Signing of Agreement**

- a) The Employer shall prepare the Contract Agreement in the Proforma (Form C) included in this document, duly incorporating all the terms of agreement between the two parties and within 21 (Twenty-One) days from the date of issue of the Letter of Award (LOA) the Successful Bidder will be required to execute the Contract Agreement.
- b) Prior to the signing of the Contract Agreement, the Successful Bidder shall submit Performance Security as per requirement of this tender.
- c) The Successful Bidder will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board and Programme Chart (Time and Progress) within the period specified in GCC.
- d) The Contract Agreement shall be duly signed by the Employer and the Successful Bidder through their authorized signatories.
- e) In case the Successful Bidder does not sign the Contract Agreement, the Employer reserves the right to cancel the selection process, forfeit any Bid Security and/or Performance Security, as the case may be, submitted by the Successful Bidder and either re-Bid or proceed in any manner that it may deem fit.

### **2.29 PREFERENCE TO MAKE IN INDIA**

The order issued by Department of Industrial Policy and Promotion (DIPP) vide No. P-45021/2/2017-PP (BE-II) dated 16.09.2020 will form part of this tender. The Contractor shall ensure strict compliance to this order during the entire tenancy of Contract.

## **SECTION III EVALUATION OF BIDS**

### **3.1 EVALUATION PARAMETERS**

- 3.1.1 The Employer shall start downloading/ opening the online Bids at scheduled time on the Bid Due Date, at the time and place specified in Clause 1.2 KIT and in the presence of the Bidders who choose to attend. The Bids for which Bidder has exercised withdrawal option on the e-procurement portal in accordance with Clause 2.14 shall not be downloaded/ opened.
- 3.1.2 The Employer will subsequently examine and evaluate the Bids in accordance with the provisions set out in this Section III.
- 3.1.3 To facilitate evaluation of Bids, the Employer may, at its sole discretion, seek clarifications in writing from any Bidder regarding its Bid.
- 3.1.4 Subject to the terms of this RFP and the LOA, the Project will be awarded to the Bidder, who submits a responsive Bid, meets the specified Technical Capacity, Financial Capacity criteria for undertaking the Project and is shortlisted for opening of Financial Bid and offers the lowest Bid Price.
- 3.1.5 In the Bid Evaluation stage, only those Bids that are found to be responsive to the requirements of the RFP as specified in Clause 2.21.2 above would be opened for assessing their qualification for Technical Capacity, Financial Capacity to undertake the Project as per the Evaluation Process detailed in Clause 3.2 hereunder.

### **3.2 EVALUATION PROCESS**

For the purpose of evaluation of the Bids received against this RFP, a Bid Evaluation Committee (BEC) shall be constituted by the Employer. The BEC would subsequently examine and evaluate the Bids received, as per the criteria set out in this RFP.

The Bids will be evaluated in the following stages:

- i. Stage 1- Preliminary & Technical Evaluation
- ii. Stage 2- Financial Evaluation

#### **Stage 1: Preliminary & Technical Evaluation**

##### **3.2.1 Preliminary Evaluation**

In Preliminary Stage, e-Tender Fee and Bid Security will be checked online. E-Tender Fee and Bid Security will be checked for veracity of Amount as required by e-tender terms and conditions. If e-Tender Fee and/ or Bid Security submitted by any Bidder is not as per e- tender terms and conditions, his bid will be rejected and will not be considered for further stages of evaluation.

##### **3.2.2 Technical Evaluation**

#### **A. Technical Bid – Eligibility Criteria**

The Bidders qualifying in Stage 1 as per Clause 3.2.1 above will be considered for further evaluation and the Technical Bids shall be evaluated as per the eligibility criteria detailed in Clauses 2.2 and 2.3 and the Bidder's eligibility for the work shall be determined. If the Bidder is not meeting with the minimum eligibility criteria as

detailed in Clauses 2.2 and 2.3, his Bid will be rejected and will not be considered for further stages of evaluation.

### **3.3 SELECTION OF BIDDER**

3.3.1 The Employer, however, reserve the rights to restrict the list of such technically qualified Bidders to any number deemed suitable by it.

- i. The financial Bid of only those Bidders who are technically qualified shall be opened.
- ii. The financial Bids of Bidders whose technical Bids are found unacceptable shall not be opened
- iii. The Employer shall notify all the technically qualified Bidders of their technical qualification indicating the date, time and venue for opening of financial Bids.
- iv. The Employer (Tender Inviting Agency) shall open the financial Bid of the technically qualified Bidders in the presence of the Bidders/ their authorized representative, who choose to attend, at the scheduled date and time.
- v. On opening the financial Bids, the result shall be visible in the e-tender portal.
- vi. If a Bidder quotes Nil rates against each item in the Financial Bid, it shall be treated as invalid and will not be considered.

3.3.2 The evaluation of the Financial Bids by the BEC will take into account, in addition to the tender amounts, the following factors:

- i. Arithmetical errors corrected by BEC.
- ii. Such other factors of administrative nature as the Employer may consider having a potentially significant impact on contract execution, price and payments, including the effect of items or rates that are unbalanced or unrealistically priced.

3.3.3 In the event that the L-1 is not selected, the Employer will decide in consultation with the Authority to take further course of action. The employer also reserves the right to invite the 2nd lowest bidder (L-2) to match the Bid Price with that of L-1 Bidder for award of work. This shall continue till the work is awarded to a suitable bidder. Employer reserves the right to annul the bidding process and invite fresh bids as it deems fit during the course of this tender.

### **3.4 LETTER OF AWARD**

3.4.1 The Successful Bidder would be notified in writing by the Employer by issuing the Letter of Award (LOA) in favour of the L-1 Bidder.

3.4.2 After selection, a Letter of Award (LOA) shall be issued, in duplicate, by the Employer to the Selected Bidder and the Selected Bidder shall, within 7(seven) 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 extension of time for submission thereof, appropriate the Bid Security of such Bidder as Damages on account of failure of the Selected Bidder to acknowledge the LOA.

3.4.3 After acknowledgement of the LOA as aforesaid by the Selected Bidder, it shall cause the Bidder to submit Performance Security and Additional Performance Security (if any) within the period prescribed/extended by Authority / Employer and then execute the Agreement within the period prescribed in Clause 1.2. The Selected Bidder shall not be entitled to seek any deviation, modification or amendment in the Agreement.

3.4.4 The Employer reserves the right to evaluate / analyze the component wise quote of the bidders and in the case of exorbitant / unbalance quote of components, the Employer reserves the right to de-scope any component from the quote while awarding the work to the L-1 Bidder.

### **3.5 EXECUTION OF EPC AGREEMENT**

After acknowledgement of the LOA as aforesaid by the L-1 Bidder, it shall in accordance with the requirement set forth in RFP execute the Contract Agreement with the Employer within the period prescribed in Clause 1.3. The Selected Bidder shall not be entitled to seek any deviation, modification or amendment in the Contract Agreement. Notwithstanding anything contained in the LOA and the GBD, the rights of the Selected Bidder specified in the Contract Agreement shall not become effective until the Contract Agreement has been executed by the Selected Bidder with the Employer.

### **3.6 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.

### **3.7 CORRESPONDENCE WITH BIDDER**

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

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.



## **SECTION IV**

### **FRAUD AND CORRUPT PRACTICES**

- 4.1 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 'Authority' / 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 or Contractor, as the case may be, if it determines that the Bidder or Contractor, as the case may be, has, 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's Representative 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 Authority / Employer under the Bidding Documents and/ or the Agreement, or otherwise.
- 4.2 Without prejudice to the rights of the Authority / Employer under Clause 4.1 hereinabove and the rights and remedies which the 'Authority' / 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 Authority / 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 GBD issued by the 'Authority' / Employer during a period of 1(one) year from the date such Bidder or Contractor, as the case may be, is found by the 'Authority' / 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.
- 4.3 For the purposes of this Clause 4.3, the following terms shall have the meaning hereinafter respectively assigned to them:
- 4.3.1 "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 avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the 'Authority' / Employer who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the Bid Acceptance or has dealt with matters concerning the Agreement or arising there from, 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 Authority/ 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 the Clause 4.1 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 Agreement, who at any time has been or is a legal, financial or technical adviser of 'the Authority/ Employer in relation to any matter concerning the Project;

4.3.2 "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;

4.3.3 "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;

4.3.4 "Undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by 'The Authority' / Employer with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or having a Conflict of Interest; and

4.3.5 "Restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

## **SECTION V MISCELLANEOUS**

- 5.1 The Bidding Process shall be governed by, and construed in accordance with, the laws of India within the jurisdiction of Courts at Thiruvananthapuram shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process. Any Dispute which is not resolved amicably by conciliation, as provided in relevant Clause of the Agreement, Settlement of Disputes.

Except where otherwise provided in the Contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions hereinbefore mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever, in any way arising out of relating to the contracts, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the executions or failure to execute the same, whether arising during the progress of the work, or after the completion or abandonment thereof shall be dealt with as mentioned hereinafter:

If the contractor considers any work demanded of him/her to be outside the requirements of the Agreement, or disputes any drawing, record or decision given in writing by the Employer or any matter in connection with or arising out of the Agreement or carrying out of the work to be unacceptable, he/she shall promptly within 15 days request the Chairman of the Departmental Dispute Redressal Committee formed by Government, in writing for written instruction or decision. Thereupon, the Dispute Redressal Committee shall give its written instructions or decision within a period of one month from the date of receipt of the Contractor's letter.

- 5.2 The Employer in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;
- a. 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;
  - b. Consult with any Bidder in order to receive clarification or further information;
  - c. Retain any information and/ or evidence submitted to the 'Authority' / Employer by, on behalf of, and/ or in relation to any Bidder; and/ or
  - d. 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.
- 5.3 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, pursuant hereto and/ or in connection

with the Bidding Process and waives, to the fullest extent permitted by applicable laws, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.

5.4 The EPC Contract and GBD are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this GBD, in the event of any conflict between them, the priority shall be in the following order:

a) the EPC Contract;

b) the GBD.

i.e. the EPC Contract at (a) above shall prevail over the GBD at (b) above.

## **SECTION VI SCOPE OF WORK**

- 6.1 The overall master plan, scheme and engineering designs are arrived by Employer/ Consultant of Employer based on the Detailed Project Report (DPR).
- 6.2 The Contractor shall follow Volume- IV: Employer's Requirement for Study, Planning, detailed design and Engineering, Surveys & Investigation (Pre-Engineering, Pre-Construction and Post-Construction), Procurement, Fabrication, Transportation, Construction (Civil, Structural, Mechanical, Electrical, Plumbing, HVAC, Fire Fighting, STP and other related services) and Installation, Testing, Pre - commissioning, Commissioning and handing over, O&M as per the terms of the EPC Contract.
- 6.3 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 of the Project during the Defects Notification Period (DNP), which shall be for period as specified from completion of Construction work and on issuance of Taking Over Certificate
- 6.4 The Contractor has to perform Study of tides & tidal currents aimed to identifying cost effective off-shore costal protection measures. by associating with agencies having similar experience such as NIOT, NCCR, IITs etc.
- 6.5 Discrepancies and Adjustment of Errors  
The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small-scale drawing and figured dimensions in preference to scale and guiding documents
- 6.6 Statutory Approvals:
- (i)The Contractor shall obtain all necessary approvals including pre-construction from Municipality and other local bodies, Water supply agencies concerned, Electric Supply and inspectorate, Agencies concerned, Police and Security Agencies, Chief Controller of Explosives, Fire Department, Civil Aviation, Air Force Department, Coastal Area Development, Environment Department etc. as applicable in accordance to prevailing rules, Building Bye-Laws etc., as the case may, but not limited to, related to/ required for Construction and successful Completion of the project. All expenditure on this account shall be borne by the Contractor.

The government fees for the statutory clearances shall be reimbursed by KIIFB as per actuals along with the subsequent payment milestone on recommendation of the Employer upon production of certified invoices. These approvals shall include obtaining approval of all the competent authorities and other statutory bodies like Ministry of Environment and

forests, Fire, Building Permit, State Pollution Control Board, Coastal Area Development Authority, local development bodies etc. as applicable and necessary according to the local Acts, Laws, Regulations, etc. and make any changes desired by such authorities at no extra cost.

- (ii) The reimbursement of statutory approval shall be done along with the subsequent payment milestone on submission of supporting Government receipt.
- (iii) The reimbursement of statutory approval shall be done on next coming milestone payment only on submission of supporting Government receipt.
- (iv) Obtaining approval of the Architectural drawings from relevant local statutory body & obtain Commencement Certificate from local bodies leading to commencement of construction of the project if required.
- (v) Obtaining NOCs (No Objection Certificates) from Fire Department, Lift Inspector, Storm water drainage & sewerage department, Municipal Corporation/ Local Bodies, Civil Aviation, Railways, completion and/ or occupancy certificates etc. as required.
- (vi) Obtaining approval of electrical drawings from Central/ State Electrical Inspectorate As applicable, if required.
- (vii) Any other approval required from the appropriate Statutory Authorities/ Local Bodies.
- (viii) Statutory Clearances: For any project, certain statutory clearances as well as adherence to certain stipulated rules are to be followed. An Indicative list of approvals/ rules to be taken in account for the development plan is listed in table below:

# S. No.	Agency/ Department
1.	Environment (Protection) Act, 1986 with Rules
2.	Kerala Municipal Building Rules (KMBR), 2019
3.	CRZ Notification, 2019
4.	Guidelines for issuance of No Objection Certificate (NOC) (Constituted under sub-section (3) of section 3 of the Environment (Protection) Act, 1986)
5.	Air (Prevention and Control of Pollution) Act, 1981 with Rules.
6.	Water (Prevention and Control of Pollution) Act, 1974 with Rules.

7.	Water Cess Act, 1977
8.	The Biological Diversity Act, 2002
9.	Noise Pollution (Regulation and Control) Rules, 2010, as amended
10.	Construction and Demolition Waste Management Rules, 2016
11.	Indian Electricity Rules, 1956
12.	Indian Motor Vehicles Act, 1988
13.	Petroleum Act with Rules 2000
14.	Municipal Solid Waste (Management and Handling) Rules, 2016
15.	Plastic waste management amendment rules 2021
16.	State Groundwater Regulation
17.	Tourism Policy, 2017
18.	Tree Cutting Permission
19.	Kerala conservation of Paddy and wetland Act, 2008
20.	The Right to Fair Compensation and Transparency in Land Acquisition Rehabilitation and Resettlement Act, 2013 (Act 30 of 2013) ( LARR)

#- The above list are indicative and Bidders are requested to verify the applicability of any other clearance at their own.

- (ix) All the work must be executed as per CPWD specifications /IS codes and the method statement shall be got approved by Engineer-In-Charge before execution. The contractor shall follow all the KIIFB guidelines as given in the website <https://kiifb.org/resources.jsp>.
- (x) In case of delay in obtaining the mandatory CRZ clearance (wherever applicable), for reasons not attributable to the Contractor, the period of such delay shall not be considered for reckoning the Project Completion Period, as per the Contract Agreement. However, the Contractor shall start and complete those components of the Project for which CRZ clearance is not applicable.

#### 6.7 Special care for existing services:

- a. The scope of work includes dismantling, if any, of the required services and utilities falling in the project area and supporting/ shifting & making functional existing services/sewerage, Electrical transmission & Distribution lines and water supply lines etc. The cost of shifting utilities borne by the Contractor shall be reimbursed on actual basis.
- b. The Contractor shall properly take care & safe guard all the existing services in the area affected by the construction in the project.
- c. In case of any damages to the existing utilities, services in the project area, the contractor shall rectify the same at his own cost without any delay and inconvenience to the user.

#### 6.8 Risk Assessment :

Risk identification, managing through mitigation measures thereby reducing the impact is key to success of every project. Possible means to control the impact is detailed in the mitigation measures:

SL. NO.	RISK	MITIGATION PLAN
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1.	Sea Attacks, Seismic Environment	The construction of the walkway at the beachfront may be delayed due to unfavorable climatic condition during the phase of construction. Phased construction, Necessary protective measures, etc. shall be planned
2.	Damage to flora and fauna	The noise and water pollution due to construction activities can disturb the flora and fauna. Proper execution plans and control measures shall be put in place through EHS plan.
3.	Inconvenience to Dwellers and Tourists	Phased manner construction, proper signage's, dust/ noise control provisions, barricades, alternate pathways etc. shall be planned.
4.	Local Agitation	Bringing the local community on board from the initial planning stage. Timely and periodic interaction with local community. Addressing their grievances at right time.



## SECTION VII

### GENERAL CONDITIONS AND REGULATIONS FOR O&M

#### 7.1 Description:

- Operation & Maintenance shall be for Fifteen (15) years and separate O&M agreement shall be signed between the Authority and the Contractor on as per the tender conditions. O&M period shall start from date of issuance of Taking Over Certificate/taking over whichever is later.
- Billings during the O&M period shall be recommended by the Authority and released by the KIIFB based on payment milestone for O&M.
- Actual charges for Electricity, Water and Internet charges shall be paid by the Authority.
- The Contractor shall extend full co-operation to other agencies/ Authority staff who will work in the premises or operate the services for the project.
- In case of dispute during O&M period, the decision of the Authority shall be final and binding to the contractor.
- Some of the component wise parameters to be considered are tabulated below:

COMPONENTS	CONSUMABLES		NON-CONSUMABLES	
	Fixed	Variables	Fixed	Variables
Development of Silent Valley Sun Bath Park	AMC for ACs, Firefighting, STP, Full painting	Materials for Civil, Electrical, Mechanical, Plumbing and other items as per the scope of work	Skilled/ Semi-Skilled/ Un-Skilled along with the supporting staff for Regular maintenance such as Security guards, cleaning sweepers, Supervisors etc. as per the minimum requirement or as per conditions set forth in O&M agreement	Cost of technician/ manpower required for defect or during breakdown of STP or other system developed by the Contractor condition for O&M period.
Development of Beachside Infrastructure		Supply of Skilled/ Semi-Skilled/ Un-Skilled along with the supporting staff for rectification		
Development of Corporation Land				
Development of Edakkal Rock Bridge				

## 7.2 Commencement of work, Time Frame for attending/ rectification

The Contractor shall commence the O&M work immediately from date of issuance of Taking Over Certificate/taking over whichever is later and continue the work for Fifteen (15) years. Time-frame as per the category of defects for attending/ rectifying the defect shall be as follows:

S. No.	Attend	Diagnose	Rectification- Minor complaints	Rectification- Major complaints
1.	Within 60 minutes Minutes from reporting time <sup>#</sup>	60 Minutes from reporting time <sup>#</sup>	180 Minutes from reporting time <sup>#</sup>	15 Hours from reporting time <sup>#</sup>

#- Reporting shall be done through letter/ e-mail from the Authority and reporting time shall mean the issuance of letter/ e-mail.

**Minor complaint:** LV works such as fuse blown, MCCB/ MCB failure, terminal pitting, and replacement of bulbs, LV works, AC services and repairing, Plumbing, Bio fencing etc.

**Major complaint:** Civil works such as walkway repair, trench repair, RCC repair works etc.

## 7.3 Materials and Workmanship

### Materials

- All materials and articles shall be of the best 1<sup>st</sup> class engineering practice for the work. Wherever reference is made in the Contract to the respective standards and codes in accordance with which goods and materials shall be furnished, and works is to be performed expressly set forth in the Contract. In case the materials and goods are not available, other authoritative standards which ensure an equal or higher quality than the standards and codes specified shall be accepted subject to the Authority prior review and written approval.
- Differences between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Authority at least 30 days prior to the date when Contractor desires the Authority approval.
- In the event the Authority determines that such deviations do not ensure equal or higher quality, the Contractor shall comply with the standards set forth in the contract documents.
- All the materials supplied/ consumed during DNP or O&M shall be provided by the contractor at no extra cost.
- The contractor shall ensure the availability of materials / consumables during the DNP and O&M period.

## Workmanship

- The Contractor shall execute the whole and every part of the work.
- The Contractor shall employ a full time technically qualified staff during the execution of this work. The workforce so employed for the work must have sufficient experience to handle the work independently. Such workforce shall have to stay near the site of work and they shall not be entrusted with any other duty except of this work.
- The Contractor shall deploy sufficient qualified man power required for meeting functional requirement of the project as given below:
  - a. General maintenance jobs and attending to specific complaints shall be carried out round the clock daily including Sundays by keeping at least one qualified and skilled technician and one assistant for Civil/ Electrical/ Mechanical/ Associated works as per the scope.
  - b. Sufficient support staff shall also be deployed to support the duty of general staff. Minimum manpower to be provided during O&M period:

<b>Minimum Manpower in each working shift of 8 hours</b>	<b>Nos.</b>
Lifeguard	4
Security guards	2
cleaning sweepers	4
Supervisors	3
Operator for STP (1)	1

- i. Any other manpower as deemed fit for regular maintenance of the project.
  - ii. Other technician/ manpower required for defect rectification shall be as per the requirement and cost for the same shall be borne by the Contractor without any extra claim.
  - iii. The above list is illustrated for guidance only and actual manpower requirement of the assets developed shall be as per specific requirement.
- c. The Contractor shall take prior approval from the Authority before deploying manpower at site.
- d. The Contractor shall remain in touch with the Authority of regarding instructions in connection with day-to-day operation and maintenance work. He will also keep records of materials / consumables procured by him from time to time. Contractor shall coordinate personally and promptly with statutory bodies in case of power failure or accident to restore the services.
- e. It shall be the responsibility of the Contractor to arrange for deployment of operation and maintenance staff beyond normal working hours/ on holidays etc. whenever need arises without additional cost.
- f. It shall be the responsibility of the contractor to keep all equipment and working area in a clean condition after maintenance.
- g. The Contractor shall inform immediately to the Authority about any abnormality found in any equipment supplied as per the scope of work.

- h. The Contractor shall ensure regular checkup of the entire services including civil/ electrical/ mechanical and other associated services as per the Volume- IV: Employer's Requirement.
- The Contractor shall have to arrange the training programme for the occupants of the Authority so that they are able to make use of the Firefighting system, STP and other specialized works commissioned/ completed.
- The Contractor shall have to maintain all records relating to the operation, maintenance and servicing of the systems/ equipment's as reported for and shall have to make the same available for inspection as & when asked for. The copy of the same shall be submitted to the Authority in electronic sheet.
- The schedule for periodic inspection and maintenance of the major equipment and all accessories shall be submitted by the contractor and it shall be contractor's responsibility to carry out routine inspection and maintenance for the up-keep of the system as a whole, to ensure trouble free service round the clock. If the equipment requires major maintenance, the same shall be informed to the Authority.

#### **7.4 Action and Compensation for faulty rectification/ maintenance**

If at any time in continuation of the works appear to the Authority or his sub-ordinate in charge, that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of inferior quality or are otherwise not in accordance with the contract, it shall be lawful for the Authority to intimate this fact in writing to the Contractor and then notwithstanding the fact that the work, materials or articles complained of may have been passed. Certified and paid for, the Contractor shall be bound forthwith to rectify, or remove and reconstruct the works so specified in whole or in part as the case may be required or if so required shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost, the Authority may rectify or remove and re-execute the work or remove and replace the materials complained as the case may be at the risk and expense in all respects of the Contractor. If at any time in continuation of the works appear to the Authority or his sub-ordinate in charge, that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of inferior quality or are otherwise not in accordance with the contract, it shall be lawful for the Authority to intimate this fact in writing to the Contractor and then notwithstanding the fact that the work, materials or articles complained of may have been passed. Certified and paid for, the Contractor shall be bound forthwith to rectify, or remove and reconstruct the works so specified in whole or in part as the case may be required or if so required shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost, the Authority may rectify or remove and re-execute the work or remove and replace the materials complained as the case may be at the risk and expense in all respects of the Contractor.

#### **7.5 List of tools and tackles to be brought and used on works by the Contractor**

The Contractor shall furnish list of tools and tackles immediately available with for use on the work and which they propose to procure for the work.

## **7.6 Services of Utilities**

Where the work to be performed under these specifications crosses or otherwise interferes with water, sewer, buried cable or other public or private utilities, the Contractor shall preserve and protect such utilities and shall perform such services during the progress of the work so that no damage will result to either public or private interests till alternative arrangement for relocating such facilities are made. The term "Watercourses" included ditches, terraces, furrows or other features of surface irrigation systems. It shall be the responsibility of the Contractor to determine the actual locations of and make provision for all watercourses and utilities.

Before any watercourse or utility is taken out of service, permission shall be obtained from the Authority by the Contractor. The Contractor shall be liable for all damages that may result from failure to preserve and protect watercourses or utilities during the progress of the work and the Contractor shall indemnify and hold harmless the Authority from claims of whatsoever nature or kind arising out of or connected with damage to water courses or utilities encountered during services, damages resulting from disruption of service and injury to persons or damage to property resulting from the negligent, accidental or intentional breaching of watercourses or utilities.

If the Contractor does not maintain the existing watercourse and utilities in such condition that no damage will result to either public or private interests, the Authority will make the necessary repairs to be made and recover charges from the Contractor for such work.

## **7.7 Telephone, Power lines and other utilities**

The details of telephone, power-line crossings and other utilities shall be collected from the Authority. In case, Equipment and vehicles shall not be operated, it shall bring such equipment or vehicles or any part thereof within 5 meters of any high voltage line or installation as per the direction of authority.

## **7.8 Work during Night or on Sundays and Holidays**

The work shall not be carried out during night or on Sunday and authorized holidays without the prior written consent of Authority. However, it will be allowed to be carried out the work during night, Sundays or authorized holidays subject to:

- The provisions of relevant labour laws being adhered to.
- Adequate lighting, supervision and safety measures established to the satisfaction of the Authority.
- The services programme given by the Contractor and agreed upon by the Authority envisages such working.
- If it is necessary or required to ensure the safety of work, protection of life, or to prevent loss or damage to property.

## **7.9 Water and Electric Power**

The water and electric power supply shall be given by the Authority at common points. The Contractor shall not raise any claim against the Authority for failure or stoppage of power supply for any reasons whatsoever. Contractor shall judiciously utilize water and electricity.

## **7.10 Other Contractors**

When two or more Sub-contractors are engaged on work in the same vicinity, they shall work together in a spirit of co-operation and accommodation. The Contractor shall not take or cause to be taken any steps or actions that may cause disruptions, discontent or disturbance to the works, labour and arrangements of other contractor in the neighboring project localities. In case of any difficulties amongst the Contractors, the Authority shall direct the manner in which each Contractor shall conduct his works so far as it does not affect the others.

It is possible that work at, or in the vicinity of the site of work will be performed by the Authority or by other Contractors engaged in work for the Authority during the Contract period. The Contractor shall without charge permit the Authority and such other Contractor's and other workmen to use the access facilities including roads, lighting installation and any other facilities constructed or acquired by the Contractor for use in the performance of the works till they are required to be maintained for the purpose of this work.

### **7.11 Ecological Balance**

The Contractor shall maintain ecological balance by preventing water pollution and defacing of natural landscape. The Contractor shall so conduct his services as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the work. In respect of ecological balance, Contractor shall observe the following instructions.

- a) Where unnecessary destruction, scarring, damage or defacing may occur as a result of the operations the same shall be repaired, replanted or otherwise corrected at the Contractor's expense.
- b) All trees and shrubbery which are not specifically required to be cleared or removed for service purposes shall be preserved and shall be protected from any damage that may be caused by the Contractor's operations and equipment. The removal of trees or shrubs will be permitted only after prior approval of the Authority. Special care shall be exercised where trees or shrubs are exposed to injuries by equipment, dumping, chemical damage or other operation and the Contractor shall adequately protect such trees by use of protective barriers or other methods approved by the Authority. Trees shall not be used for anchorages. The Contractor shall be responsible for injuries to trees and shrubbery caused by his operations. The terms 'injury' shall include, without limitation, brushing scarring, tearing and breaking of roots trunks or branches. All injured trees and shrubs shall be restored as nearly as practicable without delay to their original condition at the Contractor's expenses.
- c) The Contractor's activities shall be performed by methods that will prevent entrance or accidental spillage of solid matter contaminants, debris and other objectionable pollutants and wastes into Canal. Such pollutants and wastes include earth and earth products, garbage, cement concrete, sewage effluent, industrial wastes, radio-active substances, mercury, oil and other petroleum products, aggregate processing, tailings much products, minerals, salts and thermal pollution. Pollutants and wastes shall be disposed off in a manner and at sites approved by the Authority.
- d) In the conduct of activities and operation of equipment's, the Contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize air pollution.
- e) Excessive emission of dust into the atmosphere will not be permitted during the services and the Contractor shall use such methods equipment as are

necessary for collection and disposal or prevention of dust during these operations. Equipment and vehicles that give objectionable emission shall not be operated. Burning of materials resulting from clearing of trees, combustible materials and rubbish may be permitted only when atmospheric conditions for burning are considered favourable.

- f) Separate payment will not be made for complying with provisions of this Clause and all costs shall be deemed to have been included in the financial bid.

#### **7.12 Action where no specifications specified**

In the case of any type of work for which there is no specifications, such work shall be carried out in accordance with the specifications and in the event of there being no specifications, then, in such case the work shall be carried out in all respects in accordance with the instructions, and requirements of the Authority.

The Authority may order modify at any time before completion of the work. No modification shall be made unless so ordered in writing. For all modification, the Authority will issue revised plans.

#### **7.13 Works to be executed under direction of the Authority**

All works to be executed under the Contract shall be executed under the direction of Authority and subject to approval in all respect of the Authority who shall be entitled to direct at what point or points and in what manner they are to be commenced and from time to time carried on.

#### **7.14 Liability of Contractor for Damage Done in or Out Side Work Area**

Compensation for all damage done intentionally or unintentionally by Contractor's labours whether in or beyond limit of the Authority's property including any damage caused by the spreading of fire shall be estimated by the Authority or such other officer as he may appoint and the estimates of the Authority, subject to the decision of the Authority, on appeal, shall be final and the Contractor shall be bound to pay the amount of the assessed compensation on demand, failing which the same will be recovered from the Contractor as damages in the manner as decided by the Authority and deducted from any sums that may be due or become due from the Authority to the Contractor or under this contract or otherwise.

The Contractor shall bear the expenses of defending any action or other legal proceeding that may be brought by any person for injury sustained by him owing to neglect of precautions to prevent the spread of the fire and he shall also pay the damages and cost that may be awarded by the Court in Consequence.

#### **7.15 Price Adjustment**

Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, for goods and services except as provided in the Contract. Price Adjustment is applicable for O&M cost is in accordance with Table-2 of Appendix-2 Schedule of Payments.

Price Adjustment is applicable for O&M cost alone and shall be 2.5% per year with a reset in every 3 years. Price adjustment shall be paid on net-billed amount approved by the Employer's Representative.

#### **7.16 Actions When Performance Security is forfeited**

7.16.1 In any case, in which under any clause or clauses of this contract, the Contractor shall have rendered himself liable to pay compensation amounting to the whole of his Performance Security for O&M or in the case of abandonment of the work owing to serious illness or death of the Contractor or any other cause, the Authority shall have powers:

- a. To rescind the contract (of which rescission notice in writing to the Contractor under the hand of Authority shall be conclusive evidence) and in that case the Performance Security for O&M of the Contractor shall stand forfeited and be absolutely at the disposal of the Authority.
- b. To employ labour paid by Authority and to supply materials to carry out work, or any part of the work, debiting the Contractor with the cost of the labour and the price of the materials (as to the correctness of which cost and price, the certificate of the Authority shall be final and conclusive against the Contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rate as if it had been carried out by the contractor under the terms of this contract and in that case the certificate of the Authority to the value of the work done shall be final and conclusive against Contractor.
- c. To order that the work of the Contractor be measured up and to take such part thereof as shall be unexecuted out of hands, and to give it to another Contractor/ Agency to complete, in which case any expenses which may be incurred in excess of the sum which would have been paid to the original Contractor if the whole work had been executed by him (as to the amount to which excess expenses the certificate in writing of the Authority shall be final and conclusive) shall be borne and paid by the original contractor of amount 110% of the cost and shall be deductible from any money due to him by the Authority under this contract from his Interim payment or the proceeds of sale thereof or a sufficient part thereof.

7.16.2 In the event of any of the course being adopted as per clause 7.17.1 by the Authority, the Contractor shall not claim to compensate for any loss sustained by him by reason of his having purchased or procured any materials, or made any advances on this account or with a view to the execution of the work or the performance of the contract and in case the contract shall be rescinded under the provision aforesaid, the Contractor shall not be entitled to recover or be paid any sum for any work thereof actually performed by him under this contract unless and until the Authority shall have certified in writing the performance of such work and the amount payable in respect thereof and shall only be entitled to be paid amount so certified.

7.16.3 If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies than unless the accepting authority is satisfied that legal heirs or representatives of the individual Contractor or of proprietary concern, are capable of carrying out and complete the contract, as the accepting authority shall be entitled to cancel the contract, as to its uncompleted part by forfeiting the Performance Security for O&M under clause 7.17.1(a) without Authority



being in anyway liable to pay any compensation to the heirs of the deceased contractor on account of the cancellation of the contract. The decision of the Authority that the legal representatives of the deceased contractor cannot carry out and complete the contract shall be final and binding on the Contractor. In the event of such a cancellation, Authority shall not hold the heirs of the deceased Contractor liable for damages for not carrying out the work remaining incomplete as on the date of death of individual Contractor.

7.16.4 In any case in which any of powers conferred upon the Authority under clause 7.17.1 hereof shall have become exercisable and the same shall not have been exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable at any future date.

7.16.5 In the event of the Authority taking action under clause 7.17.1 to 7.17.4, the Authority may if so desires, take possession of all or any tools, plants, machineries, materials and stores in or upon the work or the site thereof or belonging to the Contractor or procured by him and intended to be used for the execution of O&M work or any part thereof, by paying market rates where ascertainable of similar articles and comparable condition, to be certified by the Authority. In the alternative the Authority may by notice, in writing to the Contractor or his clerk of the works. Foreman or other authorized agent require him to remove such tools, plants, machineries, materials or stores from the premises within a time to be specified in such notice and in the event of the Contractor failing to comply with any such requisitions, remove them at the Contractor's expenses or shall remove them by auction or private sale at the risk and cost of the Contractor in all respect, and the certificate of the Authority as to the expenses of any such removal and the amount of the proceeds shall be final and conclusive against the Contractor.

#### **7.17 Action when the performance of the work is unsatisfactory**

If the progress of any particular portion of the work is unsatisfactory, the Authority shall, notwithstanding that the general progress of the work is satisfactory, be entitled to take action under clause 7.17.1 (b) after giving the Contractor 10 days' notice in writing and the Contractor will have no claim what so ever for any compensation or loss sustained by him in owing to such action.

#### **7.18 Safety Provisions**

The Contractor in his operations shall arrange for the safety measure as required inclusive of the provisions in the latest safety manual published by the Central and State Government. In case the Contractor fails to make such arrangements, the Authority shall be entitled to recover the costs there of from the Contractor.

For failure to comply with the provisions of the Safety Manual the Contractor shall, without prejudice to any other liabilities, pay to the Authority a sum not exceeding Rupees One Thousand per day for each day default.

#### **7.19 Labour Compensation under the Workman's Compensation Act**

- a) The contractor shall be responsible for and shall pay any compensation to his workmen payable under the workmen's compensation Act 1923 (VIII of 1923) (hereinafter called the said Act) for injuries causes to the workmen. If such compensation is paid by the Authority under sub-section (1) of section 12 of the said Act, on behalf of the Contractor, it shall be recoverable by the Authority from the Contractor's claim under sub-section (2) of the said section. Such compensation shall be recovered in the manner as decided by the Authority.
- b) The Contractor shall be responsible for and shall pay the expenses of providing medical aid to any workmen who may suffer a body injury as a result of an accident. If such expenses are incurred by the Authority, the same shall be recoverable from the Contractor forthwith and be deducted without prejudice to any other remedy of Authority from any amount due or that may become due to the Contractor.
- c) The Contractor shall provide all necessary personal safety equipment and first aid apparatus available for the use of the persons employed on the site and shall maintain the same in suitable condition for immediate use at any time and shall comply with the following regulations in connection therewith:
  - I. The workers shall be required to use the equipment so provided by the Contractor and the Contractor shall take adequate steps to ensure proper use of the equipment by those concerned;
  - II. When work is carried out in proximity of any place where there is risk of drowning, all necessary steps shall be taken for the prompt rescue of any person in danger;
  - III. Adequate provision shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
- d) Details of laborers employed
  - I. The contractor shall not employ in connection with the works any person who has not completed his Eighteen (18) years of age.
  - II. The Contractor shall furnish to the Authority information about various categories of labors employed by him in the form and at such interval as may be specified.
  - III. The contractor shall in respect of labor employed by him comply with or cause to be complied with the provisions of the various labour laws and rules and regulations as applicable to them in regard to all matters provided therein and shall identify the Authority in respect of all claims that may be made against the Authority for non- compliance thereof by the Contractor.
- e) Notwithstanding, anything contained herein the Authority may take such action as may be necessary for compliance of the various labour laws and recover the costs thereof from the Contractor.
- f) In the event of the Contractor committing a default or breach any of the provisions of the labour laws and rules and regulations applicable, the Contractor shall, without prejudice to any other liability under the Act, pay to Authority a sum not exceeding Rupees one thousand per day for each of the defaults subject to a maximum of one percent of the O&M cost.
- g) The Contractor should, as far as possible, obtain his requirement of labours, skilled and unskilled, from the nearest Employment Exchanges so as to utilize the local employment potential. If there are no local Employment Exchanges or such Exchanges are not able to provide the required labour locally, suitable available labours should be utilised to the maximum extent possible. The contractor shall

have to engage local labour and person seeking employment where available on normal rate.

h) Fair Wages:

- I. If a Contractor fails to pay within '7' (Seven) days to any the labour(s)/ worker(s) the minimum wages prescribed by the Government under the minimum wages Act 1948 as in force from time to time, the Authority shall be at liberty to deduct the amount payable by the contractor to the labour/ worker from his (Contractor's) bills or deposit(s) after making due inquiries and establishing claims of the labour(s)/worker(s).
- II. The Contractor shall not be entitled to any payment of compensation on account of any loss that the Contractor may have to incur on account of the action as aforesaid. Before the action as aforesaid, is enforced, a notice in writing to the Contractor shall be issued by the Authority to pay the wages as per Minimum wages Act in force at the relevant time. If Contractor does not act as aforesaid within seven days then the action contemplated as above shall be taken against him.
- III. The contractor shall have to engage local and person seeking employment where available on normal rates.

## **7.20 Liability of Contractor for Accidents to Persons**

In addition to responsibilities and liabilities of the Contractor under workmen's Compensation Act given in clause 7.20, following shall also apply:

On the occurrence of an accident, which results in death of workmen employed by the Contractor or which is as serious as is likely to result in death of any such workmen, the Contractor shall within 24 hours of happening of such accident(s), intimate in writing to the Authority, the fact of such accident(s). The Contractor shall indemnify the Authority against all loss or damage sustained by the Authority resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or fines, if any, payable by the Authority as a consequence of Authority's failure to give notice under the Workmen's Compensation Act or otherwise to conform to the provisions of the said Act regard to such accident(s).

In the case of an accident, in respect of which compensation may become payable under workmen's Compensation Act, whether by the Contractor or by the Authority, it shall be lawful for the Authority to retain out of money due and payable to the Contractor such sum or sums of money as may, in the opinion of the Authority be sufficient to meet such a liability. The opinion of the Authority shall be final in regard to all matters arising under this Clause.

## **7.21 Reports**

The contractor shall submit the following reports to the Authority:

- A weekly report in MIS (electronically generated format) for the work force deployed and grievance reported by end users for the work. In case of work force, the Contractor shall increase or decrease the strength both skilled and unskilled, if directed by the Authority. The submission of such report shall not, however relieve the Contractor of his responsibilities and duties regarding progress or any other obligations under the contract.
- A report of any accident, which may have occurred, shall be sent within 24 hours of the occurrence.

## **7.22 Insurance**

The Contractor shall secure and maintain throughout the duration of this Contract insurance of such types and in such amounts as may be necessary to protect himself against all the usual hazards or risks or loss. The form and limits of such insurance and the company together with the under writing thereof in each case, shall be such as will be acceptable to the Authority but, regardless of such acceptance, it shall be the responsibility of the contractor to maintain adequate insurance at all-time at least to cover:

- Workmen's compensation in accordance with the law in force from time to time.
- Third party liability including Authority's personnel on duty with a cover of minimum Rs. 5 lac for each person in case of fatal accident/permanent disability.
- Failure of the Contractor to maintain adequate insurance coverage shall not relieve him of any contractual responsibility.

Attested copies of certificate or policies of insurance shall be filed with the Authority prior to starting any work on this contract. The certificates shall state that fifty days advance written notice will be given to the Authority before any policy covered thereby is changed, cancelled or expired.

## **7.23 Observance of Laws, Local Regulations**

The Contractor shall conform to all laws of the land and regulations and bye- laws of any local authority and of any water or electricity supply companies with whose system the structure is proposed to be constructed. He shall before making any variations from the specifications that may be necessitated for so conforming, give to the Authority a written notice, specifying the variations proposed to be made and the reasons for the Contractor does not receive such instructions within seven days, he shall proceed with the work conforming to the provisions, regulations or bye laws in question and any variation in the specifications so necessitated shall be followed as per the direction of the Authority. The Contractor shall give notices required by the said Acts, regulations or bye-laws and bear the required fees in connection therewith. He shall also ensure that no attachments are made against materials for works related to the Contracts. The Contractor shall protect and indemnify the Authority against all claims or liabilities arising from or based on the violation of such laws, ordinances regulations, bye-laws, decrees or attachments by him or by his employees. The contractor shall also notify Authority in case any other unforeseen permit / NOC required to carry out the work.

## **7.24 Exceptional Events**

Neither party shall be liable to the other for any loss or damage occasioned / caused by or arising out of act of God and in particular "Unprecedented floods", volcanic eruption, earthquake or other convulsion of nature and other acts, such as but not restricted to invasion, the act of foreign countries, hostilities or war like operations before or after declaration of war rebellion military or usurped power (but excluding strikes and

lockouts) which prevent performance of the contract and which could not have been foreseen or avoided by a prudent person.

Note: "Unprecedented flood" means the flood crossing the highest observed flood level which is on the available record.

If any loss of damage happens to the works, or any part thereof, or materials or plant for incorporation therein, during the period for which the contractor is responsible for the care thereof, from any cause whatsoever, the Contractor shall at his own cost, rectify such loss of damage so that the permanent works conform in every respect with the provisions of the contract to the satisfaction of the Employer's Representative.

## **7.25 No Compensation for Change or Restriction of Works**

If at any time after the execution of the Contract documents, the Authority shall for any reason whatsoever, require the whole or part of the work as specified in the tender be stopped for any period or shall not require the whole or part of work to be carried by the contractor, he shall give notice in writing stating the fact to the contractor who shall there upon suspend or stop the work totally or partially as the case may be. In such case except provided hereunder the contractor shall have no claim to any payment or compensation whatsoever except as provided hereunder. on account of any profit or advantage which he might in consequence of the full amount of work not having been carried out on account of the any loss that he may put to on account of material purchased or agreed to be purchased or for unemployment of labour recruited by him. He also shall not have any claim for compensation by reason of any alternation having been made in the original specifications, approved designs and instructions which may involve any curtailment of the work as originally contemplated. During the period of suspension, the contractor shall not remove any equipment from the site and any part of the work without prior written consent of the Authority.

The contractor shall not be entitled for loss of expected profit from such work.

## **7.26 Claims**

The Contractor shall not be entitled to any claim/ claims from the Authority on any account unless where allowed by the condition of this contract. In such cases, the Contractor shall have to submit a claim in writing to the Authority within one month on the cause of such claim occurring. All claims arising as a dispute of any kind out of the contract shall be governed by Arbitration clause as per Volume III: Particular Conditions of Contract.

## **7.27 Termination**

- A. By the Authority: The Authority may terminate this Contract, by not less than thirty (30) days' written notice of termination to the Contractor, to be given after the occurrence of any of the events specified in this clause:
  - I. If the Contractor do not remedy a failure in the performance of their obligations under the Contract, within a period of thirty (30) days', after being notified or within such further period as the Authority may have subsequently approved in writing
  - II. within thirty (30) days, if the Contractor become insolvent or bankrupt;

- III. if, as the result of Force Majeure, the Contractor are unable to perform a material portion of the Services for a period of not less than sixty (60) days;
  - IV. within thirty (30) days, if the Contractor fails to comply with any final decision reached as a result of arbitration proceedings pursuant to relevant clauses hereof;
  - V. within thirty (30) days, if the Contractor, in the judgment of the Authority has engaged in Corrupt or Fraudulent Practices in competing for or in executing the Contract;
  - VI. if the Authority, in its sole discretion and for any reason whatsoever, within a period of thirty (30) days' decides to terminate this Contract.
- B. By the Contractor: The Contractor may terminate this Contract, by not less than thirty (30) day's' written notice to the Authority, such notice to be given after the occurrence of the events specified in this clause:
- I. if the Authority fails to pay any money due to the Contractor pursuant to this Contract and not subject to dispute pursuant to relevant clauses hereof within forty-five (45) days after receiving written notice from the Contractor that such payment is overdue; or
  - II. if, as the result of Force Majeure, the Contractor are unable to perform a material portion of the work for a period of not less than sixty (60) days.
- C. Cessation of Rights and Obligations: Upon termination of this Contract pursuant to actual Termination, or upon expiration of this Contract pursuant to relevant clause hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in relevant clause hereof, (iii) the Contractor's obligation to permit inspection, copying and auditing of their accounts and records (iv) the rights of indemnity of the Authority v) any right which a Party may have under the Applicable Law.
- D. Cessation of Services: Upon termination of this Contract by notice of either Party to the other pursuant to relevant clauses hereof, the Contractor shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to the work done by the Contractor and equipment and materials furnished by the Authority, the Contractor shall handover all project documents under procedure described in this contract.
- E. Payment upon termination of this Contract, the Authority will make payments pursuant to satisfactorily performed work prior to the effective date of termination.
- F. Disputes about Events of Termination: If either Party disputes Termination of the contract under relevant clauses hereof, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration under relevant clauses hereof, and this Contract shall not be

terminated on account of such event except in accordance with the terms of any resulting arbitral award.

**ANNEXURE - I**  
**CHECK LIST OF DOCUMENTS**

**TECHNICAL PACKAGE**

<b>S. No</b>	<b>Name of Document</b>	<b>Mode of Submission</b>
1.	Non –refundable Online payment of Rs. 17,700/- as e-Tender Fee / Processing Fee	<b>Online</b>
2.	Bid Security of Rs. 5,00,000/-	
3.	Form “A” Format for Form of bid	
3.1	ADDON to Form A	
3.2	Form “T-1” (Financial Information)	
3.3	Form T-1-B (Format for Solvency Certificate)	
3.4	Form T-1-B-1 (Form for Certificate of Net Worth)	
3.5	Form “T-2” (Details of Eligible Similar Nature of Works Completed in Last Seven Years Ending Previous Day of Last Date of Submission of Bid)	
3.6	Form “T-3” {ADDON To Form “T-2”} Performance Report of Works Referred to in Form “T-2”	
3.7	Form “T-4” (Structure & Organization)	
3.8	Form “T-5” (GST Registration Details)	
3.9	Form “T-6” List of Key Personnel	
3.10	Form “T-7” {ADDON to Form “T-6”} Format for CVs of Key Personnel	
3.11	Form “T-8” {ADDON to Form “T-6”} List of Sub-Contractors	
3.12	Form “T-9” Contractor’s Equipment	
3.13	Form “T-10” Project Under Execution or Awarded	
3.14	Form “F-1” (Information Required to calculate the Bid Capacity)	
4.	Form “B” Format for Performance Security	
5.	Form “C” Draft Agreement for EPC Tender	
6.	Form “D” Power of Attorney for Signing of Proposal for Authorized Signatory	
7.	Form “E” Affidavit duly notarized on non-judicial of appropriate value- stamp paper	
8.	Form “F” Undertaking	
9.	Form “G” Format for Advance Bank Guarantee for Mobilization Advance	
10.	Form “H” Format for No-Conviction Certificate	
11.	Form “I” Format for understanding the project site	
12.	Form “J” Format for No Deviation Certificate	
13.	Form “K” List of Equipment Owned by the Bidder at the time of bidding	
14.	Form-“L” Format for Joint Venture Agreement	
15.	Form “M” Format for Undertaking Specialized Works	
16.	Form “N” Format for MOU/ Agreement for Joint Venture	
17.	Form “O” Form of Integrity Pact	
18.	Form“P” Format for Performance Security for O&M	



S. No	Name of Document	Mode of Submission
19.	Form “Q” Draft Agreement for O&M Period	
20.	All guiding bid documents along with corrigendum/ addendum (if any)/ pre bid clarifications (if any) digitally signed by the authorized person of the bidder	
Note:- All the uploaded documents should be in readable, printable & legible form.		

### **FINANCIAL PACKAGE**

<b>S. No</b>	<b>Name of Document</b>	<b>Mode of Submission</b>
1	Digitally signed Price Bid (Volume- VI: Financial Bids)	Online

**FORM- “A”**  
**FORMAT FOR FORM OF BID**  
**(ON BIDDER’S LETTERHEAD)**

From:

To,  
The Regional Manager  
1st Floor, JP Krishna Building,  
Pallimukku, Pettah  
Trivandrum – 695024

**Subject: Submission of bids for the work of “Development of Kovalam and adjacent beaches in Thiruvananthapuram Kerala ”**

Sir,

Having visited the Site, ascertained the Site conditions and examined the General Conditions of Contract as well as Particular Conditions of Contract, Notice Inviting Bids, Instructions to Bidders etc. and addenda for the above project, we the undersigned, are pleased to submit our technical and financial Bid along with relevant documents.

We acknowledge that the Annexures shall be an integral part of the Bid.

1. I / We acknowledge that all information provided in the Bid are 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. I/We acknowledge that while preparing this Bid, we have gathered our own information and conducted our own inquiry/survey to our satisfaction and we did not rely solely on the information provided in the Guiding Bid Documents. We shall not hold Employer responsible on any account in this regard. The Contract Price has been quoted by me / us after taking into consideration all the terms and conditions stated in the NIT, 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. We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
4. We submit the requisite certified Solvency certificate / Net worth certificate and Employer to approach the Bank issuing the solvency certificate / Chartered Accountant issuing net worth certificate to confirm the correctness thereof. I/We also authorize the Employer to approach individuals, employers, firms and corporation to verify our competence, work experience, and general reputation.
5. We undertake, if our Bid is accepted, to enter into an Agreement in accordance with the draft that has been provided to me/us prior to the Bid Due Date. We also agree not to seek any changes in the aforesaid draft and agree to abide by the same.
6. We undertake to commence the works within the stipulated time and to complete the whole of the works comprised in the Contract within the stipulated time calculated from the commencement date.
7. If our Bid is accepted, we will furnish Performance Security as per NIT for the due performance of the Contract. The amount and form of such guarantee or bond will be in accordance with as given in the NIT.

8. We are aware that in the event of delay in execution of the Project, beyond the agreed timelines due to reasons attributable to us, liquidated damages shall be recovered from us.
9. Our Bid is valid for your acceptance for a period of ONE HUNDRED AND TWENTY DAYS from the last date of submission of the Bid as per the Bid Documents or any extension thereto.
10. We agree to the General Conditions of Contract and Particular Conditions of Contract and the terms and conditions mentioned in the Guiding Bidding Documents.
11. We declare that the submission of this Bid confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item of work related to the award of this Contract. We further confirm and declare that no agency commission or any payment, which may be construed as an agency, commission has been, or will be, paid and that the Bid price does not include any such amount. We acknowledge the right of Employer, if it finds anything to the contrary, to declare our Bid to be non-compliant and if the Contract has been awarded to declare the Contract null and void.
12. We understand that you are not bound to accept the lowest or any Bid you may receive.
13. We understand that the project payments shall be directly released by the funding agency.
14. I/ We acknowledge the right of the Authority/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.
15. We submit the certificates in support of our suitability, technical knowledge and capability for having successfully completed the works.
16. We enclose;
  - a. All documents as per the checklist
  - b. Bid Security

Note:

- i) The Annexures part of the Bid
- ii) Bidders are required to fill up all the blank spaces in this form of Bid and Annexures.

**Certificate:**

It is certified that the information given in the enclosed in the bid are correct. It is also certified that I/we shall be liable to be debarred, disqualified/ cancellation of enlistment in case any information furnished by me/us found to be incorrect.

Enclosures:

Date of submission:  
Bidder(s)

Seal of bidder  
Signature(s) of

### **ADDON TO FORM A**

i)	(a) Amount of Performance Security to be deposited by financially successful bidder	As per Item No. 17 of the Sub-para 1.2, Key Information Table (KIT) of Section I
	(b) Amount of Security Deposit	As per Item No. 18 of the Sub-para 1.2, Key Information Table (KIT) of Section I
ii)	Date for Commencement of work	As per Item No. 15 of the Sub-para 1.2, Key Information Table (KIT) of Section I
iii)	Time for completion	As per Item No. 16 of the Sub-Clause 1.2, Key Information Table (KIT) of Section I
iv)	Amount of compensation in case of extension of completion date due to delays by the Contractor	As per Clause 8.8 of GCC
v)	Defects Notification Period from the date of issue of "Taking Over Certificate"	As per Item No. 19 of the Sub-Clause 1.2, Key Information Table (KIT) of Section I
vi)	(a) Period of validity of Performance Security	As per Sub-Clause 4.2.3 of GCC
	(b) Period of validity of Security Deposit	As per Sub-Clause 14.9 of GCC

Signature

(Authorized Signatory)

Date .....

Name

Place .....

Address

**FORM 'T-1'**  
**FINANCIAL INFORMATION**

Financial Analysis: Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last FIVE years duly certified by the Chartered Accountant/ Statutory Auditor, as submitted by the applicant to the Income Tax Department (Copies to be attached).

<b>Years</b>	<b>Gross Annual turnover on Construction works</b>	<b>Profit/ Loss (After Tax)</b>
2022-2023		
2021-2022		
2020-2021		
2019-2020		
2018-2019		

II. Financial arrangements for carrying out the project.

Signature of Statutory Auditor/ Chartered Accountant  
(with Seal and UDIN Number )

Signature of Bidder(s).  
(with Seal)

**FORM "T-1-B"**  
**FORMAT FOR SOLVENCY CERTIFICATE**  
**[To be submitted on Bank's Original Letter Head]**

**SOLVENCY CERTIFICATE**

To,  
The Regional Manager  
WAPCOS Limited, Regional Office, Kerala  
1st Floor, JP Krishna Building,  
Pallimukku, Pettah  
Trivandrum - 695024

Name of the work: Tender for "[Insert name of the work/project here]"

This is to certify that to the best of our knowledge and information 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 \_\_\_\_\_).

This certificate is issued without any guarantee or responsibility on the Bank or any of the officers. This certificate is issued at specific request of the customer for tender purpose.

Date:

Place:

Signature of Authorized signatory of bank:

Name of Authorized signatory of bank:

E-mail id of Bank/Authorized signatory of bank:

Power of Attorney number of bank official:

Note:

- Solvency Certificate should be on letter head of the Bank
- Email ID of bank/ authorized signatory of bank should be clearly mentioned on the certificate so that Authenticity/genuineness of the certificate can be established via email.
- Solvency Certificate should have the Name of the work: Tender for "[Insert name of the work/project here]"

**FORM 'T-1-B-1'**  
**FORM FOR CERTIFICATE OF NET WORTH**

To,  
The Regional Manager  
WAPCOS Limited, Regional Office, Kerala  
1st Floor, JP Krishna Building,  
Pallimukku, Pettah  
Trivandrum - 695024

Name of the work: Tender for "[Insert name of the work/project here]"

It is to certify that as per the audited balance sheet and profit & loss account during the financial year 2022-23, the Net Worth of M/s ..... (Name & Registered Address of the individual / firm / company ) , as on..... (relevant date) is Rs..... after considering all liabilities. It is further certified that the Net Worth of the company has not eroded by more than 30% in the last three years ending on ..... (the relevant date).

Signature of the Chartered Accountant/ Statutory Auditor .....

Name of the Chartered Accountant/ Statutory Auditor  
.....

Membership number of ICAI.....

Date & Seal.

**FORM "T-2"**  
**DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS COMPLETED IN LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF BID**

Name of the Bidder.....

S. No	Details	Description
1.	Name of work / project and location	
2.	Owner/Client/Employer or sponsoring organization	
3.	Whether the work is carried out in Engineering, Procurement & Construction (EPC)/Turnkey basis	Yes/ No
4.	Type of work (with respect to the eligibility criteria of this bid)	
5.	Work Components	
6.	Cost of work on completion in Rs. Crores	
7.	Date of commencement as per contract	
8.	Stipulated date of completion	
9.	Actual date of completion	
10.	Date and No. of Taking Over certificate	
11.	*Litigation/ arbitration cases pending / in progress with details	
12.	Name and Address (Postal & E-mail) / telephone number of officer to whom reference may be made	
13.	Whether the work was done on back to back basis	
14.	Whether case of levy of compensation for delay has been decided or not	
	If decided, amount of compensation levied for delayed completion, if any.	

Certified that the above list of works is complete and no work has been left out and that the information given is correct to my / our knowledge and belief.

SIGNATURE OF BIDDER(S) WITH STAMP

\*indicate gross amount claimed and amount awarded by the Arbitrator.

Note: - Copy of work Orders and Completion Certificates of the above works should also be submitted.



**FORM “T-3”**  
**{ADDON to FORM “T-2”}**

**PERFORMANCE REPORT OF WORKS REFERRED TO IN FORM-T-2**

Sl. No	Details	Description
1.	Name of work / Project & Location	
2.	Agreement No.	
3.	Whether the work is carried out in Engineering, Procurement & Construction (EPC)/Turnkey basis	Yes/ No
4.	Name of Contractor	
5.	Estimated Cost	
6.	Tendered Cost	
7.	Cost of Completed Work	
8.	Date of Start	
9.	Date of completion	
i)	Stipulated Date of Completion (as mentioned in work order)	
ii)	Actual Date of Completion	
10. (i)	Whether case of levy of compensation for delay has been decided or not	
(ii)	If decided, amount of compensation levied for delayed completion, if any.	
11.	Work Components	
12.	Performance Report	
i)	Quality of Work	Satisfactory
ii)	Financial Soundness	Satisfactory
iii)	Technical Proficiency	Satisfactory
iv)	Resourcefulness	Satisfactory
v)	General Behaviour	Satisfactory

Dated :  
and above

Executive Engineer or Equivalent  
  
(Name, Designation with Sign & seal)

**FORM “T-4”**  
**STRUCTURE & ORGANIZATION**

<b>S. No.</b>	<b>Particulars</b>	<b>Details Submitted by Bidder</b>
1.	Name & address of the Bidder	
2.	Telephone no./Telex no./Fax no.	
3.	Legal status of the bidder (attach copies of original document defining the legal status) (a) An Individual (b) A proprietary firm (c) A firm in partnership (d) A limited company or Corporation	
4.	Particulars of registration with various Government Bodies (attach attested photocopy)	
5.	Organization/Place of Registration 1. 2. 3.	Registration No.
6.	Names and titles of Directors & Officers with designation to be concerned with this work.	
7.	Designation of individuals authorized to act for the organization	
8.	Has the bidder, or any constituent partner in case of partnership firm Limited Company/ Joint Venture, ever been convicted by the court of law? If so, give details.	
9.	In which field of Civil Engineering construction the bidder has specialization and interest?	
10.	Any other information considered necessary but not included above.	

SIGNATURE OF BIDDER(S) WITH STAMP

**FORM-“T-5”**  
**GST REGISTRATION DETAILS**

<b>S. No.</b>	<b>Particulars</b>	<b>Details</b>
1.	Entity Name	
2.	Address (As per registration with GST)	
3.	City	
4.	Postal code	
5.	Region/State (complete state name)	
6.	Permanent account number	
7.	GSTN	
8.	Type of business (As per registration with GST)	
9.	Service accounting code/HSN Code	
10.	Contract Person	
11.	Phone Number and Mobile Number	
12.	Email –ID	
13.	Compliance Rating (If updated by GSTN)	

SIGNATURE OF BIDDER(S) WITH STAMP

Note: Bidder should enclose copies of GST Registration and PAN

**FORM "T-6"**  
**LIST OF KEY PERSONNEL**

Bidders should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience (CVs as per Form "T-6" and requisite documents) should be supplied using the Annexure - I to Form T-5 below for each candidate. Bidder should submit a detailed Key Personnel resource schedule for the whole contract implementation period. The resource schedule must include:

- The name and role for each Key Personnel position
- The duration of each Key Personnel appointment
- The level of effort (time) allocated to each Key Personnel position and its distribution throughout the contract implementation period.

<b>S. No.</b>	<b>Key Personnel position</b>	<b>Qualification</b>	<b>Experience</b>	<b>Proposed Name</b>
1.	Project Manager	B. Tech/ BE (Civil) with MBA in Construction Management (desirable)	Should have minimum 20 years of experience of which minimum 10 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/ State/ PSU's works	
2.	Deputy Project Manager	B.Tech/BE(Civil)	Should have minimum 10-15 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/	

<b>S. No.</b>	<b>Key Personnel position</b>	<b>Qualification</b>	<b>Experience</b>	<b>Proposed Name</b>
3.	Deputy Project Manager	B.Tech/BE (Electrical)	Should have minimum 10-12 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/	
4.	Deputy Project Manager	B.Tech/BE (Mechanical)	Should have minimum 10-15 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/	
5.	Procurement Specialist	Master's degree in civil engineering, or relevant fields	Should have minimum 10-15 years of experience in procurement for work contract	
6.	HSSE Expert (Health, Safety, Security & Environment)	Graduate in relevant field	Should have minimum 10 years of experience in relevant field	
7.	Project Engineer	B. Tech/ BE (Civil) Or Diploma (Civil)	Should have minimum 5 years for B. Tech/ BE or 10 years for Diploma	

<b>S. No.</b>	<b>Key Personnel position</b>	<b>Qualification</b>	<b>Experience</b>	<b>Proposed Name</b>
8.	MEP Engineer	B.Tech/BE (Electrical) or Diploma (Electrical)	Should have working experience of minimum 5 years for B. Tech/ BE or 10 years for Diploma	
9.	Quality Engineer	B. Tech/ BE (Civil)	Should have minimum 8 years of experience out of which 5 years in Quality supervision	
10.	Structural Engineer	M.Tech in Structural Engineering with B.Tech/ BE (Civil)	Should minimum 10 years of experience (post M. Tech) in designing of Coastal/ River Front structures. Also, should have experience in designing of bridge	
11.	Urban Planner	M. Arch. (Planning)	Should have minimum 10 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area	
12.	Surveyor	Diploma	Should have minimum 5 years of experience in survey works	
13.	Billing Engineer	B. Tech/BE	Should have minimum 5 years of experience in relevant field	
14.	Site Engineers (Number as per requirement)	B. Tech/Diploma	Should have minimum 5 Years of experience	

**FORM "T-7"**  
**{ADDON to Form "T-6"}**  
**FORMAT FOR CVs OF KEY PERSONNEL**

1.	Proposed Position			
2.	Name of Firm			
3.	Name of Staff			
4.	Date of Birth			
5.	Nationality			
6.	Education			
7.	Membership in Professional Association			
8.	Other Trainings Received			
9.	Countries of Work Experience			
10.	Languages	Speaking	Reading	Writing
	English			
	Malayalam			
	Hindi			
11.	Employment Record	•		
Sl no.	From	To	Employer	Position Held
12. Detailed Task Assigned on Consultants Team of Experts:				
•				
•				
13.	Work/Assignments that Best Illustrates Capability to handle the Assigned Tasks			
I.	Project Name			
	Location			
	Year			
	Client			
	Position Held			
	Project features	•		
	Actual Duties Performed	•		
14. Certification:				
I, the undersigned, certify to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful				

misstatement described herein may lead to my disqualification or dismissal, if engaged.

(Signature of the Staff Member)

Date:

Place:



**FORM "T-8"**  
**{ADDON to Form "T-6"}**  
**LIST OF SUBCONTRACTORS**

**(Proposed Subcontractors for Major Activities/ Sub-Activities)**

The following Subcontractors and/or manufacturers are proposed for carrying out the activity/ subactivity indicated. For any additional subcontractor (that is not the Specialized Agency accepted in the initial selection process or subsequently approved by the Employer in accordance with Clause 2.3 of Volume I). The Bidders are free to propose more than one Subcontractor for each activity/ subactivity.

<b>Activity/Sub-Activity</b>	<b>Proposed Subcontractors/Manufacturers/ Suppliers</b>

*[Note: Parts of the Works for which subcontracting is not permitted are specified in the Particular Conditions Part A-Contract Data Clause 4.4]*

**FORM “T-9”**

**CONTRACTOR’S EQUIPMENT**

**(LIST OF EQUIPMENT OWNED BY THE BIDDER AT THE TIME OF BIDDING)**

The Bidder shall provide its strategy for acquiring and maintaining the key equipment that may be needed to execute the Works in accordance with the Work Program. In the strategy, the Bidder shall specify the manufacturer, capacity, model, power rating, age and maintenance condition, and how it will ensure that the equipment is maintained in accordance with manufacturer’s specifications for the duration of the Contract. The Bidder shall specify whether it will own, lease, rent or specially manufacture the key equipment.

<b>S. No.</b>	<b>Equipment’s</b>
1.	Concrete Mixing Batching Plant
2.	Concrete Pump
3.	Transit Mixer
4.	Concrete Mixer
5.	Vibrator (Needle)
6.	Vibrator (Plant)
7.	Lime mixer
8.	Bar Bending Machine
9.	Bar Cutting Machine
10.	Formwork/ Shuttering
11.	Scaffolding
12.	Lift Tower Crane
13.	Vehicles (Truck, Water Tanker, JCB, Tractor with Loader, Jeep, Road roller)
14.	De watering machines
15.	Boom Pump Truck
16.	Wood related Machinery cutter
17.	Electrical motors
18.	Diesel Generator set
19.	Oil Engines

S. No.	Equipment's
20.	Laboratory set-up (Concrete cube testing machine, cube mould, Sieve test, dump level etc.)
21.	Granite/ Marble/ Tiles cutting machine
22.	Grander
23.	Compressor
24.	Pressure grunting pump machinery
25.	Drill
26.	Line Laser leveller
27.	Electric welding plant
28.	Total station and other surveying equipment
29.	Laser distance measurer
30.	Sand/ Earth Compactor

A separate Form shall be prepared for each item of equipment proposed:

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Bidder / Proposer.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex

Agreements	Details of rental / lease / manufacture agreements specific to the project

(Signature, name and designation of the Authorized signatory)

Name and seal of Bidder

**FORM "T-10"****PROJECT UNDER EXECUTION OR AWARDED**

Sl · N o	Name of Work/Pr oject & Location	Owne r of spons oring Organ i zation	Cos t of Wor kin lakh s	Date of comm e nceme n t as per contra ct	Stipulat ed date of comple tion	Actual date of completi on	Litigatio n/ Arbitrati o n pending/ in progres s with details*	Name & addres s /Telep h one No. of officer to whom referen ce may be made	R e m a r k s
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10 )

(Signature, name and designation of the Authorized signatory)

Name and seal of Bidder



**FORM “F-1”**  
**INFORMATION REQUIRED TO CALCULATE THE BID CAPACITY**

1. To Calculate the Value of “A”

A table containing value of Civil Engineering Works in respect to Projects (Turnkey Projects/ Item rate contract/ Construction works) undertaken by the Bidder during the last 5 Years is as follows:

S. No.	Year	Value of Civil Engineering Works undertaken w.r.t projects (Rs. In Crores)
1.	2022-23	
2.	2021-22	
3.	2020-21	
4.	2019-20	
5.	2018-19	

Maximum Value of projects that have been undertaken during the F.Y.....out of the last 5 Years and value thereof is Rs..... Crore (Rupees in words.....). Further, value updated to the price level of the Year indicated in Annexure - I is as follows:

Rs. .... Crores X ..... (Updation Factor as per Annexure - I)  
= Rs. .... Crores (Rupees .....  
)

.....  
.....

Authorized Signatory

For and on behalf of .....(Name Signatory) of the Bidder )

Name of the Statutory Auditor's Firm Seal of the audit firm: (Signature, name and designation and Membership No. of authorised Signatory).

2. To Calculate the value of “B”

A table containing value of all the existing commitments and on-going workings to be completed during the next Years is as follows:

S. No.	Name of project/ work	Percentage of participation of Bidder in the project	Dater of start / appointed date of project	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 2022-23 price level
				Rs. in	Rs. in	Rs. in		Rs. in

				Crore	Crore	Crore		Crore
1	2	3	4	5	6	7= (5-6)	8	9(3x7xuf)

Updation Factor as given below:

For Year	F.Y / Calendar Year	Updation Factor
1	2022-23	1.00
2	2021-22	1.05
3	2020-21	1.10
4	2019-20	1.15
5	2018-19	1.20

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 that has been countersigned by the Client not below the rank of Executive Engineer or equivalent in respect of projects or Concessionaire/ Authorized Signatory of Employer in respect of the project. No awarded/ ongoing works has been left in the aforesaid statement which has been awarded to M/s..... individually/ and other member M/s ..... and M/s ....., as on due date of this tender.

.....  
.....

Authorized Signatory

For and on behalf of .....(Name Signatory) of the Bidder )

Name of the Statutory Auditor's Firm Seal of the audit firm: (Signature, name and designation and Membership No. of Authorized Signatory).



**FORM-“B”**  
**FORMAT FOR PERFORMANCE SECURITY**

WAPCOS Limited,  
76-C, Institutional Area,  
Sector-18, Gurgaon,  
Haryana-122015

In consideration of \_\_\_\_\_ (hereinafter referred to as "the Employer's Representative") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to \_\_\_\_\_ (Contractor's name & address) (hereinafter referred to as "the Contractor " which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer's Representative Notification of Award No. \_\_\_\_\_ dt. \_\_\_\_\_ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) for \_\_\_\_\_ (name of work) (hereinafter called " the contract") and the Contractor having agreed to provide a Contract Performance Security for the faithful performance of the entire contract equivalent to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) (5.00% of the said value of the Contract Price to the Employer's Representative).

We, \_\_\_\_\_ (name & address of bank) (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer's Representative, on demand any or, all monies payable by the Contractor to the extent of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as aforesaid at any time upto \_\_\_\_\_ without any demur, reservation, contest , recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer's Representative on the bank shall be conclusive and binding notwithstanding any difference between the Employer's Representative and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Employer's Representative and further agrees that the guarantee herein contained shall continue to be enforceable till the Employer's Representative discharges this guarantee.

We the said Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer's Representative under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the Employer's Representative certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges the guarantee.

The Employer's Representative shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from, time to time to extend the time for performance of the Contract by the Contractor. The Employer's Representative

shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer's Representative and the Contractor or any other course or remedy or security available to the Employer's Representative. The bank shall not be released of its obligations under these presents by any exercise by the Employer's Representative of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer's Representative or any other indulgence shown by the Employer's Representative or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank. The guarantee shall not be affected by a change in the constitution of the bank or of the Employer's Representative.

The bank also agrees that the Employer's Representative at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer's Representative may have in relation to the Contractor's liabilities.

We The Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney/ Post Approval Authorization dated \_\_\_\_\_ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank do hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and it shall remain in force upto and including \_\_\_\_\_ and shall be extended from time to time for such period as may be desired by Employer's Representative on whose behalf this bank guarantee has been given.

Notwithstanding anything contained herein

i) our liability under this guarantee shall not exceed Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) ;

- ii) This bank guarantee shall be valid upto \_\_\_\_\_; and
- iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before \_\_\_\_\_(indicate a date twelve months after validity of guarantee).

Dated this \_\_\_\_\_day of \_\_\_\_\_.

For & on behalf of Bidder

**FORM-“C”**  
**DRAFT AGREEMENT**

(To be executed on stamp per Rs.200/- (Government of Kerala Stamp Paper))

Preliminary Agreement entered into on this ..... day  
of..... Two thousand and ..... between  
WAPCOS LIMITED, of the one part and  
M/s.....

..... (here enter full name and address of the Bidder)  
hereinafter called the Bidder of the other part for the execution of the agreement as well  
as for the execution of the work .....

.....  
WHEREAS the WAPCOS LIMITED invited tenders for the work  
of.....

.....(he  
re enter name of the work) by Notification No.....Dated  
.....in the .....

I/We undersigned hereby offer to construct the proposed work in strict accordance with  
the Bid document.

I/We undertake to complete the whole of the works as per the lumpsum amount quoted  
from the date of issue of intimation by you that our tender has been accepted and upon  
being permitted to enter site. I/We further undertake that on failure, subject to the  
conditions of the contract relating to extension of time, I/We shall pay agreed  
'Liquidated Damages' for the period during which the work shall remain incomplete.

I/We hereby deposit with you as Bid Security Rs. \_\_\_\_\_ /- (Rupees \_\_\_\_\_) [carrying  
no interest] as mentioned in GBD in favour of WAPCOS Limited and I/We agree that  
this sum shall be forfeited in the event of the Employer accepting my/our tender and  
I/We fail to take up the contract when called upon to do so as per the bid document.  
I/We further agree for the applicable deduction from the 'Interim Payment' towards the  
Performance Security, which will be returned as per the relevant clauses in the  
agreement.

I/We will furnish the Performance Security Bond as per the approved format, if our bid is  
accepted. Security deposit shall be treated as security for the proper fulfillment of the  
same and shall execute an agreement for the work in the prescribed form. If I/We fails  
to do this or maintain a specified rate of progress (as specified in the Milestone details  
of contract data in the bid document), the performance guarantee (both treasury fixed  
deposit and irrevocable bank Guarantee) and Security Deposit if any deducted from the

payments shall be forfeited to Government and fresh tenders shall be called for or the matter otherwise disposed off. If as a result of such measures due to the default of the Bidder to pay the requisite deposit, sign contract or take possession of the work any loss to Government due to the same will be recovered from me/us as arrears of revenue, but should it be a saving to Government. I/We shall have no claim whatever to the difference. Recoveries on this or any other account will be made from the sum that may be due to us on this or any or other subsisting contracts or under the Revenue Recovery act or otherwise the Government may decide.

NOW THEREFOR IN THE PRESENCE OF WITNESS it is mutually agreed as follows.

- 1) The terms and conditions for the said contract having been stipulated in the said guiding bidding document and forms to which the I/We have agreed and a copy of which is here to be appended which forms the part of this agreement, it is agreed that the terms and conditions stipulated therein shall bind the parties to this agreement except to the extent to which they are abrogated or altered by express terms and conditions herein agreed to and in which respect the express provisions herein shall supersede those of said tender form.
- 2) I/We hereby agreed and undertake to perform and fulfill all the operations and obligations connected with the execution of the said contract work .....(hereinafter the name of the work) if awarded in favour of the me/us.)
- 3) If the Bidder does not come forward and to execute the original agreement after the said work is awarded and selection notice issued in his favour or commits breach of any of the conditions of the contract as stipulated in clause of the notice inviting tenders as quoted above, within the period stipulated then the Government may rearrange the work otherwise or get it done departmentally at the risk and the cost of the Bidder and the loss so sustained by the WAPCOS LIMITED can be realized from the Bidder under the Revenue recovery Act as if arrears of land revenue as assessed quantified and fixed by an adjudicating authority consisting of the Secretary, Department of Tourism, Government of Kerala or any other officer or officers authorized by Government in this behalf, taking into consideration the prevailing P.W.D rates and after giving due notice to the Bidder. The decision taken by such authority officer or officers shall be final and conclusive and shall be binding on the Bidder.
- 4) The Bidder further agrees that any amount found due to the Government under or by virtue of this agreement shall be recoverable from the Bidder from his Bid Security and his properties movable and immovable as arrears of Land Revenue under the provision of the Revenue Recovery Act for the time being in force or in any other manner as the Government may deem fit in this regard.
- 5) The Bidder further assures that it is clearly understood that the settlement of claims either by part bills or by final bills will be made only according to the availability of budget provision and allotment of funds of the work under the respective heads of account in which the work is sanctioned and arranged and also subject to the seniority of such bills. No claims for interest or for damages whatsoever shall be made for the related settlement of claims of bills.

IN WITNESS THERE OF SRI.....  
..... (here enter the name of the officers of the Department )

for on behalf of the WAPCOS LIMITED  
and .....

.....  
.....

the Bidder have set their hand on the day and year first above written Signed by  
Sri.....

In the presence of witnesses:

**FORM-D**  
**POWER OF ATTORNEY FOR SIGNING OF PROPOSAL FOR AUTHORIZED**  
**SIGNATORY**

Know all men by these presents, we ..... (Name of the Bidder and address of their registered office) do hereby constitute, appoint and authorize Mr /Ms.....(name and residential address of Power of Attorney holder) who is presently employed with us and holding the position of..... as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Bid for the Project and submission of all documents and providing information / responses to \_\_\_\_\_, representing us in all matters before \_\_\_\_\_, and generally dealing with \_\_\_\_\_ in all matters in connection with our proposal for the said Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

(Signature, name and designation of the Authorized signatory)  
Name and seal of Bidder

**FORM- “E”**  
**AFFIDAVIT**  
**(On a Rs 100/- non judicial stamp paper duly notarized)**

I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.

The undersigned also hereby certifies that our firm M/s..... have neither abandoned any contract awarded to us nor such works have been rescinded, during the last five years prior to the date of this application.

The undersigned also hereby confirm that M/s..... have not been under blacklisting/ debarred/ penalized from bidding by any Central/ State Government Department/Autonomous Body/ PSU as on the last date of submission of the bid.

I/We undertake and confirm that eligible works(s) as mentioned in eligibility criteria 1.4(b)(i) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Employer, then I/we shall be debarred for bidding in Employer in future forever. Also, if such a violation comes to the notice of Employer before date of start of work, the Employer's Representative shall be free to forfeit the entire amount of Performance Security.

I/ we undertake that we will provide required services during the Defects Notification Period and Operation & Maintenance period as per the terms conditions of the Contract.

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.

The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Employer.

The undersigned undertake that “I/We have not altered/ modified the Financial Bid attached in the e-tender portal. If it is found during the tender stage, the Employer shall have the right to reject our Bid”.

That .....(name of bidder) shall comply with the Make in India Policy as per the order issued by Govt. of India, Department of Industrial Policy and Promotion (DIPP) vide No. P- 45021/2/2017-PP (BE-II) dated 16.09.2020 and Rule 144(xi) of General Financial Rules (GFR) 2017 as per the order issued by Public



Procurement Division, Ministry of Finance, GOI F.No.6/18/2019-PPD dated 23.07.2020 or any revision thereof during the entire tenancy of contract. We shall submit necessary document / certificate to authenticate our claim as per the requirement of Employer's Representative.

(Signature, name and designation of the Authorized signatory)

Name and seal of Bidder

**FORM- "F"**  
**UNDERTAKING**  
**(On a Rs 100/- non judicial stamp paper duly notarized)**

Name of the Project:

We do hereby indemnify the Employer, against all penal action that may be levied/ effected by any concerned authority for default in any labour regulation/PF/ESI and other statutory requirements of the relevant Acts/Laws related to the work of the contractor and will bear the legal charges, if any, and will pay the legal charges/dues directly to the concerned authority.

(Signature, name and designation of the Authorized signatory)

Name and seal of Bidder

**FORM - "G"**  
**FORMAT FOR ADVANCE BANK GUARANTEE FOR MOBILISATION ADVANCE**

WAPCOS Limited,  
76-C, Institutional Area,  
Sector-18, Gurgaon,  
Haryana-122015

Mobilization Advance Guarantee No.

Amount of Guarantee Rs.

Guarantee cover from:

Last Date of Lodgment for Claim:

In consideration of WAPCOS Limited LTD. (hereinafter referred to as "the Employer") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to \_\_\_\_\_(Contractor's name) with its Registered /Head Office at \_\_\_\_\_(hereinafter referred to as "the Contractor " which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer's Notification of Award No. \_\_\_\_\_dt. \_\_\_\_\_and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. \_\_\_\_\_(Rupees \_\_\_\_\_only) for \_\_\_\_\_ (hereinafter called " the contract") and the Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting to Rs. \_\_\_\_\_(Rupees \_\_\_\_\_only) as an advance against bank guarantee to be furnished by the Contractor.

We, \_\_\_\_\_(name & address of bank) having its Head Office at \_\_\_\_\_(hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer immediately on demand any or, all monies payable by the Contractor to the extent of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_only) as aforesaid at any time upto \_\_\_\_\_without any demur, reservation, contest , recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this guarantee. We further agree that no change in the constitution of the Bank or of the Employer shall affect this guarantee.

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 the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank.

The bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

We The Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney/ Post Approval Authorization dated \_\_\_\_\_ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank does hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank does hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is limited to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and it shall remain in force upto and including \_\_\_\_\_ and shall be extended from time to time for

such period (not exceeding one year), as may be desired by M/S \_\_\_\_\_ on whose behalf this bank guarantee has been given.

Notwithstanding anything contained herein

Our liability under this guarantee shall not exceed Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only);

This bank guarantee shall be valid upto \_\_\_\_\_ and our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before \_\_\_\_\_ (indicate a date twelve months after the validity of the guarantee).

Dated this \_\_\_\_\_ day of \_\_\_\_\_ at New Delhi.

WITNESS

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Official address)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Designation with bank stamp)

Attorney as Power of Attorney  
No. \_\_\_\_\_ dt. \_\_\_\_\_

**FORM-“H”**

**[On the letterhead of the Organization]**

Subject: No-Conviction Certificate for --- (Name of the work / project)

This is to certify that \_\_\_\_\_ (Name of the organization),  
having registered office at \_\_\_\_\_ (Address of the  
registered office) has never been blacklisted or restricted to apply for any such activities  
by any Central / State Government Department or Court of law anywhere in the country.

This is also to certify that M/s \_\_\_\_\_ (Name of Organization), is not involved in any form of Corrupt and Fraudulent practices in past and will never be involved in future.

Yours faithfully,

Date: \_\_\_\_\_ (Signature, name and designation  
of the Authorized signatory)

Place: \_\_\_\_\_ Name and seal of Bidder \_\_\_\_\_

**FORM - "I"**  
**FORMAT FOR UNDERSTANDING THE PROJECT SITE**  
**(on Bidder's Letter Head)**

To,  
The Regional Manager  
WAPCOS Limited, Regional Office Kerala,  
1st Floor, JP Krishna Building,  
Pallimukku, Pettah  
Trivandrum - 695024

Subject: Undertaking of the Site Visit for --- (Name of the work / project)

Sir,

I/we hereby certify that I/we have examined & inspected the site & its surroundings satisfactorily, where the project is to be executed as per the scope of works. I/ We are well aware about the following

Location of the proposed building and its allied works.

Site clearance and no cutting off the matured trees.

Topography and contouring of the land where the project is to be executed to understand the cutting & filling during the construction and about depth of column/ foundation below the plinth beam.

Nature of the ground & sub-soil of the site and accessibility to the site.

Existing surrounding road level to finalize plinth beam level as per standard norms.

Location of Existing Sewer line & Water pipe line network to connect the proposed building and allied works to make the building functional.

Location of existing Electric Sub-Station to supply the electricity for the proposed building and allied works to make the building functional.

I / We hereby submit our BID considering above all facts gathered during site visit and each & every aspect have been considered in the Quoted cost of the project since it is EPC Contract. I / We hereby confirm that no extra/additional cost shall be claimed on above aspects

Yours faithfully,

Date: (Signature, name and designation  
of the Authorized signatory)

Place: Name and seal of Bidder

**FORM "J"**  
**FORMAT FOR NO DEVIATION CERTIFICATE**  
**[To be submitted on Bidder's Letter Head]**

To,  
The Regional Manager  
1st Floor, JP Krishna Building,  
Pallimukku, Pettah  
Trivandrum - 695024

Subject: No Deviation Certificate for -----(name of Work /Project)

Dear Sir,

With reference to above this is to confirm that as per Tender conditions we have visited site before submission of our Offer and noted the job content and site condition etc. We also confirm that we have not changed/ modified the above tender document and in case of observance of the same at any stage it shall be treated as null and void.

We hereby also confirm that we have not taken any deviation from Tender Clause together with other reference as enumerated in the above referred Notice Inviting Tender and we hereby convey our unconditional acceptance to all terms & conditions as stipulated in the Tender Document.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null and void.

Thanking you,  
Yours faithfully,

Date: (Signature, name and designation  
of the Authorized signatory)

Place: Name and seal of Bidder  
In the presence of witnesses:

IN WITNESS THERE OF SRI.....  
..... (here enter the name of the officers of the Department )

for on behalf of the WAPCOS Limited  
and .....

.....  
.....



the Bidder have set their hand on the day and year first above written Signed by  
Sri.....

**FORM “K”**  
**LIST OF EQUIPMENT OWNED BY THE BIDDER AT THE TIME OF BIDDING**

S.No	Equipment List

(Signature, name and designation of the Authorized signatory)

Name and seal of Bidder

**FORM “L”**  
**UNDERTAKING**

[Rule 144 (xi) in the General Financial Rules (GFRs), 2017]

Name of the Project:

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

Date:

Place:

(Signature, name and designation of the Authorized signatory)

Name and seal of Bidder

**FORM "M"**  
**FORMAT FOR UNDERTAKING SPECIALIZED WORKS**  
**(On a Rs 100/- non judicial stamp paper duly notarized)**

Name \_\_\_\_\_ of \_\_\_\_\_ project: \_\_\_\_\_ We, \_\_\_\_\_ M/s \_\_\_\_\_ do hereby undertake to enter into a Joint Venture with specialized agency after approval of WAPCOS Limited for the execution of specialized works pertaining to \_\_\_\_\_ confirming:

We shall ensure DNP for 5 years for civil works and 3 years for Electrical, Plumbing and mechanical works

We shall execute Operation & Maintenance for Fifteen (15) years.

We shall ensure that the work is executed by specialized agency as per technical specifications as stipulated in the NIT. Any changes required shall be got approved by the Employer's Representative and the specialized agency shall abide by it. We shall ensure that for all specialized works, for which intend to engage a specialized agency for execution of work, we shall take prior approval of the Employer's Representative before engaging such agency.

This undertaking with specialized agency does not absolve the Contractor M/s \_\_\_\_\_ from our contractual obligations

We shall be jointly and severally responsible for performance of the whole Contract.

**FORM "N"**  
**FORMAT FOR MOU/ AGREEMENT FOR JOINT VENTURE**

(To be executed on Stamp paper of appropriate value)

THIS MOU/ AGREEMENT is entered into on this the ..... day of .....20...  
AMONGST

1. {..... Limited, 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, having its registered office at } and (hereinafter referred to as the

"Second Part" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

3. {---, 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,

WAPCOS Limited as Employer for the Secretary, Department of Tourism, Government of Kerala (hereinafter referred to as the "WAPCOS" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has invited bids (the Bids") for the Development of Kovalam & Adjacent beaches in Thiruvananthapuram, Kerala in EPC mode vide tender no. ----- dated..... (the "Project").

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 BID document and other bid documents in respect of the Project, and

It is a necessary condition under the BID document that the members of the Joint Venture shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Application.

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 Bid.

2. Joint Venture

2.1 The Parties do hereby irrevocably constitute a Joint Venture for the purposes of jointly participating in the Bidding Process for the Project.

2.2 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 enter into an EPC Contract with the Employer for performing all its obligations as the Contractor in terms of the EPC Contract 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 for performing all its obligations as the Contractor in terms of the EPC Contract for the Project;
- 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.}

### 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 Bid and the EPC Contract, till such time as the completion of the Project is achieved under and in accordance with the EPC Contract.

### 6. Share of work in the Project

The Parties agree that the proportion of construction in the EPC Contract to be allocated among the members shall be as follows:

First Party:

Second Party:

{Third Party:}

### 7. Representation of the Parties

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

- 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;

- 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 favour 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:
- Require any consent or approval not already obtained;
- Violate any Applicable Law presently in effect and having applicability to it;
- Violate the Memorandum and Articles of Association, by-laws or other applicable organizational documents thereof;
- 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
- 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;
- This MOU/ Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and
- 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 MOU/ Agreement shall be effective from the date hereof and shall continue in full force and effect until Project completion (the "Defects Notification Period") is achieved under and in accordance with the EPC Contract, in case the Project is awarded to the bidder/ Joint Venture. However, in case the Joint Venture is either not pre-qualified for the Project or does not get selected for award of the Project, the Agreement will stand terminated in case the bidder is not pre-qualified.

## 9. Miscellaneous

9.1 This MOU/ Agreement shall be governed by laws of {India}.

9.2 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

For and on behalf of:

LEAD MEMBER

Signature

(Name)

(Designation)

(Address)

SECOND PART

Signature

(Name)

(Designation)

(Address)

THIRD PART

Signature

(Name)

(Designation)

(Address)

In the presence of:

1..... 2.....

Notes:

1. The mode of the execution of the MOU/ 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. The Bidder should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favour 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 MOU/ Agreement executed and issued overseas, the document shall be notarized in the jurisdiction where the Power of Attorney has been executed.



**FORM “O”**  
**FORM OF INTEGRITY PACT**

To,  
The Regional Manager  
WAPCOS LIMITED  
1st Floor, JP Krishna Building,  
Pallimukh Junction, Petteah  
Trivandrum- 695024

Sub: Submission of Tender for the work of “Development of Kovalam and adjacent beaches in Thiruvananthapuram Kerala ”

Ref: Tender No:

Dear Sir,

I/We acknowledge that WAPCOS Limited is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that the Making of the Bid shall be regarded as an Unconditional and absolute Acceptance of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main Contract, which will come into existence when tender/bid is finally accepted by the Employer. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with sections of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, the Employer shall have unqualified, absolute and unfettered right to disqualify the Bidder and reject the Bid in accordance with terms and conditions of the Bid.

Encl: Format for Integrity Pact

Yours faithfully

(Duly authorized signatory of the Bidder)

## FORMAT FOR INTEGRITY PACT

This Integrity Agreement is made at ..... on this..... Day of..... 20.....

### BETWEEN

WAPCOS Limited, New Delhi (Hereinafter referred as the 'Employer', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

### AND

.....

.....

(Name and Address of the Individual/firm/Company)  
through..... (Hereinafter  
referred to as the (Details of duly authorized signatory)

**"Bidder/Contractor"** and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

### PREAMBLE

WHEREAS the Employer has floated the Tender (NIT No. ....)  
(Hereinafter referred to as "Tender/ Bid") and intends to award, under laid down  
organizational ..... procedure, ..... contract  
for..... (Name of work)  
hereinafter referred to as the "Contract".

AND WHEREAS the Employer values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/ Bid 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: Commitment 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 any of his/her family members, will in connection with the Tender, or the execution of the 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(s) with equity and reason. The Employer will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
  - c) The Employer shall endeavour to exclude from the Tender process any person, 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 Indian Penal code (IPC)/ Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Employer will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

## **Article 2: Commitment of the Bidder(s)/Contractor(s)**

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Employer all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
2. The Bidder(s)/Contractor(s) commits 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:
  - a) The Bidder(s)/Contractor(s) 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 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.
  - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Employer as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer

along with the first manufacturer in a subsequent/ parallel tender for the same item.

- e) The Bidder(s)/Contractor(s) 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.
3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Employer interests.
5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

### **Article 3: Consequences of Breach**

Without prejudice to any rights that may be available to the Employer under law or the Contract or its established policies and laid down procedures, the Employer shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Employer's absolute right:

1. If the Bidder(s)/ Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Employer after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Employer. Such exclusion may be forever or for a limited period as decided by the Employer.
2. Forfeiture of Bid Security/ Performance Security/ Security Deposit: If the Employer has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/ determined the Contract or has accrued the right to terminate/ determine the Contract according to Article 3(1), the Employer apart from exercising any legal rights that may have accrued to the Employer, may in its considered opinion forfeit the entire amount of Bid Security, Performance Security and Security Deposit of the Bidder/ Contractor.
3. Criminal Liability: If the Employer obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Employer has substantive suspicion in this regard, the Employer will inform the same to law enforcing agencies for further investigation.

### **Article 4: Previous Transgression**

1. The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Employer.
3. If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Employer may, at its own discretion, revoke the exclusion prematurely.

#### **Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors**

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/ sub-vendors.
2. The Employer will enter into Pacts on identical terms as this one with all Bidders and Contractors.
3. The Employer will disqualify Bidders, who do not submit, the duly signed Pact between the Employer and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

#### **Article 6- Duration of the Pact**

This Pact begins when both the parties have legally signed it. It expires for the Contractor/ Vendor 12 months after the completion of work under the contract or till the continuation of Defects Notification Period and O&M, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority of the Employer.

#### **Article 7- Other Provisions**

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Employer, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a Joint Venture, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and Joint Venture members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
4. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Employer in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

6. Independent External Monitor(s): Panel of IEM's will be conveyed in due course of time.

**Article 8- LEGAL AND PRIOR RIGHTS**

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....  
(For and on behalf of Employer)

.....  
(For and on behalf of Bidder/Contractor)

WITNESSES:

1. ....  
(Signature, name and address)

2. ....  
(Signature, name and address)

Place:

Dated:

**FORM-“P”**  
**FORMAT FOR PERFORMANCE SECURITY FOR O&M**

The Secretary  
Department of Tourism,  
Government of Kerala

In consideration of \_\_\_\_\_ (The Secretary, Department of Tourism, Government of Kerala) (hereinafter referred to as "the Authority") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to \_\_\_\_\_ (Contractor's name & address) (hereinafter referred to as "the Contractor " which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer's Notification of Award No. \_\_\_\_\_ dt. \_\_\_\_\_ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. \_\_\_\_\_(Rupees \_\_\_\_\_only) for \_\_\_\_\_(name of work) (hereinafter called " the contract") and the Contractor having agreed to provide a Contract Performance Security for the faithful performance of the entire contract equivalent to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_only) (5.00% of the said value of the Contract Price to the Authority for executing Operation & Maintenance period for Ten (10) years.

We, \_\_\_\_\_(name & address of bank) (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Authority, on demand any or, all monies payable by the Contractor to the extent of Rs. \_\_\_\_\_(Rupees \_\_\_\_\_only) as aforesaid at any time upto \_\_\_\_\_without any demur, reservation, contest , recourse or protest and/or without any reference to the Contractor. Any such demand made by the Authority on the bank shall be conclusive and binding notwithstanding any difference between the Authority and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Authority and further agrees that the guarantee herein contained shall continue to be enforceable till the Authority discharges this guarantee.

We the said Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Authority under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the Authority certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges the guarantee.

The Authority shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from, time to time to extend the time for performance of the Contract by the Contractor. The Authority shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Authority and the Contractor or any other course or remedy or security available to the Authority. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Authority or any other indulgence shown by the Authority or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank. The guarantee shall not be affected by a change in the constitution of the bank or of the Authority.

The bank also agrees that the Authority at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that the Authority may have in relation to the Contractor's liabilities.

We The Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney/ Post Approval Authorization dated \_\_\_\_\_ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank do hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and it shall remain in force upto and including \_\_\_\_\_ and shall be extended from time to time for such period as may be desired by Authority on whose behalf this bank guarantee has been given.



Notwithstanding anything contained herein

i) our liability under this guarantee shall not exceed Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) ;

ii) This bank guarantee shall be valid upto \_\_\_\_\_; and

iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before \_\_\_\_\_(indicate a date twelve months after validity of guarantee).

Dated this \_\_\_\_\_day of \_\_\_\_\_.

For & on behalf of the Contractor

**FORM-“Q”**  
**DRAFT AGREEMENT FOR O&M PERIOD**

(To be executed on stamp per Rs.200/- (Government of Kerala Stamp Paper))

Preliminary Agreement entered into on this ..... day  
of..... Two thousand and ..... between the  
Secretary, Department of Tourism, Government of Kerala, of the one part and  
M/s.....

.....  
..... (here enter full name and address of the Bidder)  
hereinafter called the Contractor of the other part for the execution of the agreement as  
well as for the execution of the work .....

.....  
WHEREAS the the Secretary, Department of Tourism, Government of Kerala invited  
tenders for the work of.....  
.....(her  
e enter name of the work) by Notification No.....Dated  
.....in the .....

I/We undersigned hereby offer to operate and maintain the site for Fifteen(15) years in  
strict accordance with the Guiding Bidding Document for the consideration to be  
calculated in terms of the lumpsum quoted by us.

I/We undertake to complete the whole of the works as per the scope of work for O&M  
from the date of commencement of O&M period. I/We further undertake that on failure,  
subject to the conditions of the contract relating to extension of time, I/We shall pay  
agreed 'Liquidated Damages' for the period during which the work shall remain  
incomplete.

I/We hereby deposit with you as Bid Security Rs. \_\_\_\_\_ /- (Rupees \_\_\_\_\_) [carrying no  
interest] as mentioned in guiding bidding document in favour of the Authority and I/We  
agree that this sum shall be forfeited in the event of the Employer accepting my/our  
tender and I/We fail to take up the contract when called upon to do so as per the bid  
document. I/We further agree for the applicable deduction from the 'Interim Payment'  
towards the Performance Security, which will be returned as per the relevant clauses in  
the agreement.

I/We will furnish the Performance Security for O&M as per the approved format. In case  
of failure in submission, the act shall be treated as Non- Performance and the original

performance security submitted for the work shall be forfeited. I/We shall execute an agreement for the O&M period in the prescribed form. If I/We fails to do this or maintain a specified rate of progress (as specified in the Milestone details of contract data in the bid document), the performance guarantee (both treasury fixed deposit and irrevocable bank Guarantee) and Security Deposit if any deducted from the payments shall be forfeited to Government and fresh tenders shall be called for or the matter otherwise disposed off. If as a result of such measures due to the default of the Contractor to pay the requisite deposit, sign contract or take possession of the work any loss to Government due to the same will be recovered from me/ us as arrears of revenue, but should it be a saving to Government. I/We shall have no claim whatever to the difference. Recoveries on this or any other account will be made from the sum that may be due to us on this or any or other subsisting contracts or under the Revenue Recovery act or otherwise the Government may decide.

NOW THEREFOR IN THE PRESENCE OF WITNESS it is mutually agreed as follows.

- 1) The terms and conditions for the said contract having been stipulated in the said guiding bidding document and forms to which the I/We have agreed and a copy of which is here to be appended which forms the part of this agreement, it is agreed that the terms and conditions stipulated therein shall bind the parties to this agreement except to the extent to which they are abrogated or altered by express terms and conditions herein agreed to and in which respect the express provisions herein shall supersede those of said tender form.
- 2) I/We hereby agreed and undertake to perform and fulfill all the operations and obligations connected with the execution of the said contract work ..... (hereinafter the name of the work) if awarded in favour of the me/us.)
- 3) If the Bidder does not come forward and to execute the original agreement after the said work is awarded and selection notice issued in his favour or commits breach of any of the conditions of the contract as stipulated in clause of the notice inviting tenders as quoted above, within the period stipulated then the Government may rearrange the work otherwise or get it done departmentally at the risk and the cost of the Bidder and the loss so sustained by the Employer can be realized from the Bidder under the Revenue recovery Act as if arrears of land revenue as assessed quantified and fixed by an adjudicating authority consisting of the Secretary Department of Tourism, Government of Kerala or any other officer or officers authorized by Government in this behalf, taking into consideration the prevailing P.W.D rates and after giving due notice to the Bidder. The decision taken by such authority officer or officers shall be final and conclusive and shall be binding on the Bidder.
- 4) The Bidder further agrees that any amount found due to the Government under or by virtue of this agreement shall be recoverable from the Bidder from his Bid Security and his properties movable and immovable as arrears of Land Revenue

under the provision of the Revenue Recovery Act for the time being in force or in any other manner as the Government may deem fit in this regard.

- 5) The Bidder further assures that it is clearly understood that the settlement of claims either by part bills or by final payment will be made only according to the availability of budget provision and allotment of funds of the work under the respective heads of account in which the work is sanctioned and arranged and also subject to the seniority of such bills. No claims for interest or for damages whatsoever shall be made for the related settlement of claims of bills.

IN WITNESS THERE OF SRI.....  
..... (here enter the name of the officers of the Department )

for on behalf of the Secretary, Department of Tourism, Government of Kerala  
and .....

.....  
.....

the Bidder have set their hand on the day and year first above written Signed by  
Sri.....



# **WAPCOS LIMITED**

**(A Government of India Undertaking)**

**Ministry of Jal Shakti**

## **GUIDING BIDDING DOCUMENTS (GBD)**

**For**

**Selection of**

**Engineering, Procurement and Construction (EPC) Contractor for Development  
of Kovalam & Adjacent beaches in Thiruvananthapuram, Kerala**

**Tender No.: WAP/INFRA/KERALA/24/TSM/480-2**

**Issued on: (26.11.2024)**

**Contact Details:**

**Regional Manager- Kerala**

**WAPCOS Limited**

**1<sup>st</sup> Floor, JP Krishna Building, Pallimukku,**

**Pettah Trivandrum – 695024**

**Email: [kochi@wapcos.co.in](mailto:kochi@wapcos.co.in), [wapcoskovalam@gmail.com](mailto:wapcoskovalam@gmail.com)**

**Phone No.: 0471-2996668**

**VOLUME – II**  
**GENERAL CONDITIONS OF CONTRACT**

## GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract, shall be the “Conditions of Contract for EPC/ Turnkey Projects”, Second Edition 2017, as prepared by the International Federation of Consulting Engineers (FIDIC) along with Amendments to the FIDIC Conditions of Contract for EPC/TURNKEY Projects, Second Edition 2017” up to Amendments Issue No.3, published in November 2022, effective as of January 2023.

These General Conditions are subject to the modification set out in the “Particular Conditions” in “Volume-III- Particular Condition of Contract” of this bid document. Bidders are strongly advised to obtain a copy of the General Conditions, available from:

International Federation of Consulting Engineers (FIDIC)

World Trade Centre II

P.O. Box 311

1215 Geneva 15

Switzerland

Phone        +41 22 799 49 00

Fax            +41 22 799 49 01

E-mail        [fidic@fidic.org](mailto:fidic@fidic.org)

WWW         <http://www.fidic.org>



# **WAPCOS LIMITED**

**(A Government of India Undertaking)**

**Ministry of Jal Shakti**

**ISO 9001:2015**

## **GUIDING BIDDING DOCUMENTS (GBD)**

**For**

**Selection of**

**Engineering, Procurement and Construction (EPC) Contractor for Development of  
Kovalam & Adjacent beaches in Thiruvananthapuram, Kerala**

**Tender No.: WAP/INFRA/KERALA/24/TSM/480-2**

**Issued on: (26.11.2024)**

Contact Details:

Regional Manager- Kerala

WAPCOS Limited

1<sup>st</sup> Floor, JP Krishna Building, Pallimukku,

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Phone No.: 0471-2996668



**VOLUME-III**  
**PARTICULAR CONDITIONS OF CONTRACT**

The following Particular Conditions shall supplement the General Conditions. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions.

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## PART A - CONTRACT DATA

Conditions	Sub-Clause	Data
<b>Commencement Date</b>	1.1.4 & 8.1	Commencement Date will be as per Table 1.2 Key Information Table (KIT) of Volume I- Request for Proposal (RFP), Notice Inviting E-Tenders (NIT) & Instructions to Bidders (ITB)
<b>Cost Plus Profit</b>	1.1.17	<p>“Cost Plus Profit” means Cost plus the applicable percentage for profit stated in the Contract Data (if not stated, five percent (5%)). Such percentage shall only be added to Cost, and Cost Plus Profit shall only be added to the Contract Price, where the Contractor is entitled under a Sub-Clause of these Conditions to payment of Cost Plus Profit.</p> <p>However, this definition is not applicable for payments as per Article 14 (Contract Price and Payment) and the payments shall be as per the amount quoted by the bidder in the Financial Bid.</p>
<b>Constitution of DAAB</b>	1.1.19 & 21.1	On need basis, when deemed necessary or required by the respective party
<b>Defects Notification Period (DNP)</b>	1.1.24	As per Table 1.2 Key Information Table of Volume I- Request for Proposal (RFP), Notice Inviting E-Tenders (NIT) & Instructions to Bidders (ITB)
<b>Disputes &amp; Arbitration</b>	1.1.26	<p>Save where expressly stated to the contrary in the Contract, any Dispute shall be finally settled by binding arbitration under the Arbitration and Conciliation Act 1996 by sole arbitrators appointed by the Authority.</p> <p><b>Place of Arbitration</b> The place of arbitration shall be Thiruvananthapuram.</p> <p><b>English Language</b> The request for arbitration, the answer to the request, the terms of reference, any</p>

Conditions	Sub- Clause	Data
		<p>written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.</p> <p><b>Enforcement of Award</b> The Parties agree that the decision or award resulting from arbitration shall be final and binding upon the Parties and shall be enforceable in accordance with the provisions of the Arbitration and Conciliation Act.</p> <p><b>Performance during Arbitration</b> Pending the submission of and/or decision on a Dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under the Contract without prejudice to a final adjustment in accordance with such award. Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter: “Any dispute, Controversy of claims arising out of or relating to this Agreement or the breach, termination or invalidity thereof, shall be settled</p>

Conditions	Sub- Clause	Data
		<p>through following mechanism:</p> <p>Firstly, the aggrieved party shall write a letter to the other party detailing its grievances and calling upon the other party to amicably resolve the dispute by convening a joint meeting. Accordingly, the parties as per their convenience shall jointly convene the said meeting(s), wherein minutes of the said meeting(s) shall be prepared and countersigned by all the parties. It is mandatory to prepare minutes of meeting(s) and to be countersigned by all the parties, irrespective of the outcome of the said meeting(s).</p> <p>In the event the parties are unable to reach on settlement in the said meeting(s), then the aggrieved party shall mandatory resort to pre-litigation mediation mechanism with Kerala High Court Mediation Cell.</p> <p>It is only upon failure of the pre-litigation mediation mechanism with Kerala High Court Mediation Cell, then the aggrieved party shall resort to resolution of disputes through arbitration of a Sole Arbitrator. The appointing authority of Sole Arbitrator is the Secretary, Department of Tourism, GoK to which neither of the parties have any objection nor they shall ever object.</p> <p>Subject to the parties agreeing otherwise, the Arbitration proceedings shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 (amended as on date).</p> <p>It is also acknowledged and accepted that WAPCOS (Employer) is only working as intermediary between the Authority and the Funding Agency. Thus in the event of any dispute arises under the present agreement, the payment related to Arbitration Cost and Arbitral</p>

Conditions	Sub-Clause	Data
		<p>Award shall be borne by the Authority/ Funding agency. The said clause if found inapplicable, even then the other terms of the Arbitration Clause shall survive and shall be acted upon.</p> <p>The place/ seat of arbitration shall be Thiruvananthapuram and any award whether interim or final, shall be made, and shall be deemed for all purpose between the parties to be made, in Thiruvananthapuram. The procedural law of the arbitration shall be Indian law. The award of the arbitrator shall be final and conclusive and binding upon the Parties.</p> <p>The Contract and any dispute or claim arising out of or in connection with it or its subject matter of formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of India and the Parties submit to sole &amp; exclusive jurisdiction of the courts.”</p>
<b>Employer</b>	1.1.27 & 3.2	<p>The Regional Manager WAPCOS LIMITED 1st Floor, JP Krishna Building, Pallimukku, Pettah, Trivandrum – 695024 Land Line : 0471- 2998886 Email: <a href="mailto:kochi@wapcos.co.in">kochi@wapcos.co.in</a>, <a href="mailto:wapcoskovalam@gmail.com">wapcoskovalam@gmail.com</a></p>
<b>Employer’s Representative</b>	1.1.30 & 3.1	Shall mean an Engineer appointed by the Employer who shall act as per GCC.
<b>Specification</b>	1.1.31	<p>Following lines are added after the definition.</p> <p>Specification with reference to this contract means Employer’s Requirements</p>
<b>Contract Price and Payment</b>	14	As per Volume III - PCC, Appendix 2 Schedule of Payments, in table 1, the sum of items A, B & C constitutes the

Conditions	Sub-Clause	Data
		Contract Price.
<b>Address of Employer for communications</b>	1.3 (d)	The Regional Manager WAPCOS LIMITED 1st Floor, JP Krishna Building, Pallimukku, Pettah, Trivandrum – 695024 Land Line : 0471- 2998886 Email: kochi@wapcos.co.in, wapcoskovalam@gmail.com
<b>Address of Contractor for communications</b>	1.3 (d)	<i>“To be filed in once Contractor Selection is completed and LOA is issued to the successful Contractor”</i>
<b>Law and Language</b>	1.4	Ruling Language and Language for Communication for the contract shall be English. Governing Law shall be Indian Law
<b>Contract Agreement</b>	1.6	Time for the Parties to sign a Contract Agreement within 21 days after receipt of Letter of Award. The cost of stamp duties and similar charges if any imposed by law in connection with entry into the Contract Agreement shall be borne by the Contractor.
<b>Assignment</b>	1.7(c)	Notwithstanding anything contained herein, the Employer reserves the right to novate/assign all rights under this agreement to the Authority after completion of the Defect Notification Period. In the event of such novation/assignment, all rights and obligations of the Employer, under this Contract Agreement shall be transferred and vested with the Authority for the remaining contract period, until the Date of Completion
<b>Number of additional paper copies of Contractor's Documents</b>	1.8	<i>5 copies</i>
<b>Total liability of the Contractor to the Employer</b>	1.14	<b><i>“Contract Price”</i></b>

Conditions	Sub-Clause	Data
under or in connection with the Contract		
Right of access to the Site	2.1	90% of project site shall be provided before commencement of work and 10% of the site shall be provided within 10 months from commencement of work.
Performance Security	4.2	5.00% of Contract Price.
	4.2.1 Contractor's Obligations first para first sentence	<p>Atleast 50% of the Performance Security shall be in the form of Treasury fixed deposit as per G.O(P)No.429/15/Fin dated 28.09.2015.</p> <p>Balance of the Performance Security in the form of a Bank Guarantee issued by a Nationalized Bank or a Scheduled Bank in India. The Bank Guarantee upto Defect Notification Period shall be in favour of "Employer" as per Form B of Annexure-I of the RFP document-Volume-I.</p> <p>Bank Guarantee in Form P Annexure I of Volume-I RFP document shall be in favour of Authority (The Secretary, Department of Tourism, Government of Kerala). Performance Security against Form B shall be valid up to 28 days after completion of DNP and Form P shall be valid upto 28 days after completion of O&amp;M period.</p> <p>The Performance Security as per Form-P shall be submitted before one (01) month prior to the completion of Defect Notification Period.</p> <p>Additional Security Deposit/ Bank</p>



<b>Conditions</b>	<b>Sub- Clause</b>	<b>Data</b>
		<p>Guarantee is applicable in case of abnormally low bids/ unbalanced bids.</p> <p>The Contractor shall deliver the Performance Security to the Employer before Signing of the Contract.</p>
<b>Release of Performance Security</b>	4.2.3	<p>The Performance Security as per Form “B” of Annexure I Volume I shall be returned after the successful completion of Defects Notification Period.</p> <p>The Performance Security as per Form “P” of Annexure I Volume I shall be returned as per the following schedule:</p> <ol style="list-style-type: none"> <li>1. One third of Performance Security after completion of Eight (08) years of O&amp;M period.</li> <li>2. Next one third Performance Security after completion of Twelve (12) years of O&amp;M period.</li> </ol> <p>Remaining Performance Security after completion of Fifteen (15) years of O&amp;M period.</p>
<b>Subcontractors</b>	4.4 (a)	Maximum allowable accumulated value of work subcontracted (as a percentage of the Contract Price) is 50% of the Contract Price.
<b>Working hours</b>	6.5	The normal working hours: As per labour laws.
<b>Time for Completion</b>	8.2	21 calendar months (excluding Defect Notification Period) from the date of commencement
<b>Delay Damages</b>	8.8	2 % of Performance Security per day, subject to a maximum amount of 10%

<b>Conditions</b>	<b>Sub-Clause</b>	<b>Data</b>
		of the Contract Price. The Delay Damages shall be recovered from payments due to the Contractor.
<b>Percentage rate to be applied to Provisional Sums for overhead charges and profit</b>	13.4(b)(ii)	Not Applicable
<b>Adjustments for Changes in Cost</b>	13.7	Price escalation will be applicable as per G.O(P)No. 84/2023 dated 16.08.2023 amended at that point of time.
<b>Advance payment</b>	14.2	<p>Upon signing of the final Contract Agreement and on receipt of the acceptable Performance Security and Advance Payment Bank Guarantee of 110% for the Advance being sought, the Contractor shall be entitled to the first tranche of advance payment, if applicable, at 5 (five) percent of the Contract Price, towards mobilization and initial design works. After the mobilization and start of work, and against submission of progress of work duly certified by the Employer's Representative for the first tranche of advance payment, the Contractor shall be entitled for another tranche of advance payment of 5 (five) percent of the Contract Price. The advance payment shall be an interest-bearing advance at an interest rate of 10.00% per annum to be calculated from the date of Advance Payment by the Contractor.</p> <p>Interest shall be deducted from the subsequent contractor bills at actuals, along with the recovery of the Advance Payment released to the Contractor in accordance with this Contract Agreement.</p> <p>Both tranches of advance payment granted shall be covered by Bank Guarantee(s) for the amount to be paid.</p>

Conditions	Sub- Clause	Data
		Such Bank Guarantee(s) shall be executed in favour of the Employer by any schedule commercial bank of India, with expiry date up all advance payment, along with interest, is fully recovered or whichever is later.
<b>Repayment of advance payment</b>	14.2.3	Recovery of such sums advanced shall be made by the deduction from the contractors bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.
<b>Milestones</b>	14.3	<p>If the Employer wishes to have certain parts of the Works completed within certain times but does not wish to take over such parts when completed (as distinct from the parts of the Works which the Employer wishes to take over after completion, which should be defined as Sections in the Contract Data), such parts of the Works should be clearly described in the Employer's Requirements as 'Milestones' and it is recommended that the following provisions are added to the Contract Data and to the Conditions of Contract.</p> <p>Milestone shall be submitted by the contractor within 15 days from the date of LOA to the Employer's Representative and it shall be mutually finalized by the Engineer In Charge and the contractor. The payment shall be made on achieving the milestone as per the GBD</p> <p>The Contractor shall submit the</p>

Conditions	Sub-Clause	Data												
		<p>Milestone in the below format:</p> <table> <tr> <th>Description of a part of the Plant or of the Works that shall be designated a Milestone for the purposes of the Contract</th><th>Time for Completion</th><th>Delay Damages (as a percentage of Final Contract Price per day of delay)</th></tr> <tr> <td></td><td>days</td><td>%</td></tr> <tr> <td></td><td>days</td><td>%</td></tr> <tr> <td></td><td>days</td><td>%</td></tr> </table>	Description of a part of the Plant or of the Works that shall be designated a Milestone for the purposes of the Contract	Time for Completion	Delay Damages (as a percentage of Final Contract Price per day of delay)		days	%		days	%		days	%
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	days	%												
	days	%												
	days	%												
Percentage of Retention	14.3(iii)	2.5% of the Contract Price												
Maximum Limit of Retention Money	14.3(iii)	2.5% of the Contract Price												
Plant and Materials intended for the works	14.5(b)(i)	Not applicable												
	14.5(c)(i)	Not applicable												
Payment	14.7	<p>Period for the Employer to make interim payments to the Contractor 30 days</p> <p>a) The Contractor shall submit detailed programme in MS Project within 15 days of award of work, for approval by the Employer's Representative. All the payment shall be made based on the Approved WBS in MS project.</p> <p>b) The Employer shall make interim payments to the Contractor as certified by the Employer representative on completion of a milestone,</p>												

Conditions	Sub-Clause	Data
		<p>as specified and valued in accordance with the proportion of the Contract Price assigned to each item and its stage in the Contract Document.</p> <p>c) The Contractor shall base its claim for interim payment for completed till the end of the quarter for which the payment is claimed, valued in accordance with the above sub-Clause, supported with necessary particulars and documents in accordance with this Agreement.</p>
	14.7(b)(i)	Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.6 [Interim Payment] 30 days
	14.7(b)(ii)	Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.13 [Final Payment] 60 days
	14.7(c)	period for the Employer to make final payment to the Contractor 60 days
<b>Delayed Payment</b>	14.8	Not applicable
<b>Release of Retention Money</b>	14.9	<p>Retention Money shall be released in three parts</p> <p>First Part- 30% shall be released soon after the successful completion of construction and issuance of Performance Certificate.</p> <p>Second Part- 40% shall be released after 60 months from the completion of construction and issuance of Performance Certificate.</p> <p>Third Part- 30% shall be released after 72 months from the completion of construction and issuance of Taking Over Certificate completion of Liability for execution i.e. 10(ten) years from the</p>

Conditions	Sub-Clause	Data
		date of completion as recorded in the performance certificate by the Employer.
<b>Notice to Correct</b>	15.1	5 Years for Civil Works and 3 Years for Electrical, Mechanical, Electronics works from the date of successful completion and commissioning of the project in all respect and handing over of the work with full satisfaction of Department. As Employer is liable to the Authority, the contractor is liable to Employer till the Operation & Maintenance or DNP whichever is later. After receiving a "Notice to Correct", the Contractor shall respond within 7 days
<b>Shared Indemnities</b>	17.6	Maximum total liability of the Contractor to the Employer is onetime the Accepted Contract Price
<b>Periods for submission of insurance:</b> <b>a. evidence of insurance.</b> <b>b. relevant policies</b>	19.1	<u>14 days</u> <u>28 days</u>
<b>Maximum amount of deductibles for insurance of the Employer's risks</b>	19.2	As per the extant Law
<b>Minimum amount of third party insurance</b>	19.2.6	Not applicable
<b>Employers and Contract Claims</b>	20.1	Sub-paragraph (c) of this sub-clause to be read as the words within 28 days in place of within reasonable time
<b>Arbitration</b>	21.6 (a)	the Dispute shall be finally settled under the rules of Arbitration and Conciliation Act 1996 of India.
	21.6 (Appended )	Place of Arbitration The place of arbitration shall be Thiruvananthapuram.  English Language

<b>Conditions</b>	<b>Sub- Clause</b>	<b>Data</b>
		<p>The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.</p> <p><b>Enforcement of Award</b> The Parties agree that the decision or award resulting from arbitration shall be final and binding upon the Parties and shall be enforceable in accordance with the provisions of the Arbitration and Conciliation Act 1996.</p> <p><b>Performance during Arbitration</b> Pending the submission of and/or decision on a Dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under the Contract without prejudice to a final adjustment in accordance with such award.</p>
<b>Constitution of the DAAB</b>	21.2	Appointing entity (official) for DAAB members will be the Secretary, Department of Tourism, Govt. of Kerala.
<b>Amicable Settlement</b>	21.5	Direct Negotiation/ Mediation by Senior Executive from each of the parties.

## **PART B - SPECIAL PROVISIONS**

<b>Sub-Clause 1.1.42 Key Personnel</b>	"Key Personnel" means the positions (if any) of the Contractor's Personnel, other than the Contractor's Representative, that are stated in the Employer's Requirement.
<b>Sub-Clause 1.1.43 Laws</b>	"Laws" means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.
<b>Sub-Clause 1.1.74 Tests after Completion</b>	"Tests after Completion" means the tests (if any) which are stated in the Employer's Requirement and which are carried out in accordance with the Special Provisions after the Works or a Section (as the case may be) are taken over under Clause 10 [Employer's Taking Over].
<b>Sub-clause 1.6 Contract Agreement</b>	The second sentence of the first paragraph of the Sub-Clause is modified as: "The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Contractor."
<b>Sub-Clause 3.4 Instructions</b>	All instructions shall be given in writing with a copy to the Employer.
<b>Sub-Clause 4.18 Protection of the Environment</b>	<p>The Sub-Clause is replaced with: "The Contractor shall take all necessary measures to:</p> <ul style="list-style-type: none"><li>(a) protect the environment (both on and off the Site); and</li><li>(b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/ or activities.</li></ul> <p>The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall exceed neither the values indicated in the Employer's Requirements, nor those prescribed by applicable Laws.</p>



In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Employer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Employer."

#### **Additional Conditions of National Green Tribunal**

- I. The Contractor shall not store/ dump construction material or debris on the road/ walkway.
- II. The Contractor shall get prior approval from Employer's Representative for the area where the construction material or debris can be stored beyond the road/ walkway. This area shall not cause any obstruction to the free flow of tourist movement / inconvenience to the pedestrians or users. It should be ensured by the Contractor that no accidents occur on account of such permissible storage.
- III. The Contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area.
- IV. The Contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like material like cement, sand and other allied material are fully covered. The Contractor shall take every necessary precaution that the vehicles are properly cleaned and dust free to ensure that en-route their destination, the dust, sand or any other particles are not released in air/contaminate air.
- V. The Contractor shall provide mask to

every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

- VI. The Contractor shall compulsory use of wet jet in grinding and stone cutting.
- VII. The Contractor shall comply with all the preventive and protective environmental steps as stated in the MoEF & CC guidelines, 2010 with subsequent amendments, if any, issued by the concerned Ministry.
- VIII. The Contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 Kmph. Speed bumps shall be used to ensure speed reduction. In case where reduction speed cannot effectively reduce fugitive dust, the Contractor shall divert traffic to nearby paved areas.
- IX. The Contractor shall ensure that the construction material is covered by tarpaulin. The Contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
- X. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The Employer shall carry out cost benefit ratio analysis of the same.
- XI. As per EIA Notification of 2006, sufficient green belt around the building shall be provided. Such green belts shall be in existence prior to applying for occupancy certificate and handing it over.
- XII. It shall be ensured that C&D waste is transported from the site after keeping due record on behalf of Employer's Representative. The C&D waste shall only

be dumped at sites declared as Dumping ground and having arrangements for recycling of C&D waste in the region.

- XIII. Any violation of orders of MoEF & CC including guidelines of State Government, Kerala State Pollution Control Board (KSPCB) or any officer of any department shall lead to stoppage of work for which Contractor shall be responsible and no hindrance shall be accounted in this regard.

**Sub-Clause 4.20  
Progress Reports**

The first line is amended by adding “,weekly and daily” after  
“Monthly”

- a. The Contractor shall submit project schedule and activity wise bar charts, indicating the duration of various subheads of the work, for the complete work within 15 days of award of work for approval by the Employer's Representative. On the basis of approved bar charts contractor shall submit Progress Charts on or before 5th day of every month. Soft copy of Schedule shall be supplied whenever demanded by the Employer's Representative.
- b. The Contractor shall submit Monthly Progress Report in triplicate in format approved by Employer's Representative. Failure to submit reports may result in holding up or delay in Payment of bills.
- c. Monthly Progress Photographs: The Contractor shall arrange at his own cost to maintain a progress record of the works by taking postcard size colour photographs (preferably digitized photographs) 6 Nos. or more per month per block as directed by the Employer's Representative during the construction stages and after completion shall supply three sets at no extra cost. The Contractor will be required to submit monthly reports on the progress of his work as per the format approved by the

- Employer's Representative.
- d. The Contractor shall prepare Weekly Reports of planned and actual progress of work and subsequent week's scheduled work. These will also include material procurement status. These reports shall be submitted to the Employer's Representative & shall be reviewed in Weekly Co-ordination Meetings.
  - e. The Contractor shall file daily category-wise labour report to the Employer's Representative. The report shall indicate scheduled requirement against actual strength.
  - f. The contractor shall maintain daily weather record. Daily maximum and minimum temperature and corresponding, humidity shall be recorded and charted. Rainy days shall be recorded when the rain lasting more than one hour hampers the work. Any other inclemency in weather shall be recorded. The records shall be regularly shown to the Employer's Representative and his signature obtained.

**Sub-Clause 4.21  
Security of the Site**

**Sub-Clause 4.21 is replaced with:**

“The Contractor shall be responsible for the security of the Site, and:

- (a) for keeping unauthorized persons off the Site;
- (b) authorized persons shall be limited to the Contractor's Personnel, the Employer's Personnel, and to any other personnel identified as authorized personnel (including the Employer's other contractors on the Site), by a Notice from the Employer to the Contractor; and

Subject to Sub-Clause 4.1, the Contractor shall submit for the Employer's No-objection a security management plan that sets out the security arrangements for the Site. The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any

requirements set out in the Employer's Requirements. The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Employer's Requirements."

**Clause 5  
Design**

Following are appended.

All the components shall be designed and developed as per the requirement set forth in Volume- IV: Employer's Requirement and Volume- V: Tender Drawings.

The Volume- IV: Employer's Requirement and Volume- V: Tender Drawings provided to the bidders are to ensure a clear understanding of the building design standards and other associated parameters that the Employer wishes to achieve for different components of the project. While the Employer is keen to see innovation, the required standards of design must be achieved. Contractors shall outline the means by which they will ensure design quality and the design objectives, which have influenced their scheme. This shall include details of how the Employer's objectives are to be achieved.

**Sub-Clause 5.4  
Technical Standards  
and Regulations**

The following is added as a second paragraph:

"If stated in the Employer's Requirements, the Contractor shall:

- (a) take into account climate change considerations in the design of structural elements of the Works and new buildings if any; and apply the concept of universal access to the design and construction of structures and new buildings if any (the concept of universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances.

**Sub-Clause 13.7  
Adjustments  
Changes in Cost** for

"Subject to Sub-Clause 13.7, save and except for the amount pertaining to the O&M in the Financial Bid, other components of Contract Price shall not be subject to any adjustment in respect of rise or fall in the cost of labour, Materials, or any other matters

<p><b>Sub-Clause 14.3</b> <b>Application</b> <b>Interim Payment</b></p>	<p>affecting the cost of execution of the Contract.”</p> <p>Price Adjustment is applicable for O&amp;M cost alone and shall be 2.5% per year with a reset in every 3 years. Price adjustment shall be paid on net-billed amount approved by the Employer/Authority.</p> <p>The following is inserted at the end of (vi) after: <i>[Agreement or Determination]</i>: “any reimbursement due to the Contractor under the Dispute Avoidance/Adjudication Agreement. (Appendix General Conditions of Dispute Avoidance/ Adjudication Agreement).”</p>
<p><b>Sub- Clause 14.4</b> <b>Schedule</b> <b>Payments</b></p>	<p>of The Contract Price will be paid in instalments based on the financial progress as specified in the Volume IV: Employer’s Requirement.</p>
<p><b>Sub-Clause</b> <b>18.4(para-b)</b> <b>Consequences of an</b> <b>Exceptional Event</b></p>	<p>if the Exceptional Event is of the kind described in sub-paragraphs (a) to (e) of Sub-Clause 18.1 [Exceptional Events] and, in the case of sub-paragraphs (b) to (e) of that Sub-Clause, occurs in the Country, payment of such Cost including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 19.2 [Insurance to be Provided by the Contractor].”</p>
<p><b>Sub-Clause 1.1.27</b> <b>Employer</b></p>	<p>Replace with the following: “Employer means the person, named as the Employer in the Contract Agreement and Contract Data, appointed by the Authority to manage the Project on behalf of the Authority, and the legal successors in title to this person.”</p>
<p><b>Sub-Clause 1.1.41</b> <b>JV Undertaking</b></p>	<p>In sub-paragraph (b) “leader” is replaced with “Lead Member”</p>
<p><b>Sub-Clause 1.1.81</b> <b>Authority</b></p>	<p>“Authority” means the person named as Authority in the Contract Agreement and the legal successors in title to this person. He is the owner of the Project and to whom on completion, the Project will be finally handed over.</p>
<p><b>Sub-Clause 1.1.82</b> <b>Authority’s Engineer</b></p>	<p>“Authority’s Engineer” appointed by the Authority, who will act on behalf of the Authority as mentioned in Appendix-1 of PCC.”</p>

<b>Sub-Clause 1.1.83 Lead Member</b>	“Lead Member” in the case of a JV, means the member of such JV who shall have the authority to bind the Contractor and each member of the JV; and shall be deemed to be the Contractor for the purposes of this Contract and cannot be substituted.
<b>Sub-Clause 1.1.84 Milestone</b>	“Milestone” means targets to be achieved in the Project specified as a part of the Plant and/or a part of the Works stated in the Contract Data (if any), and described in detail in the Employer’s Requirements as a Milestone, which is to be completed by the time for completion stated in Sub-Clause 4.24 [Milestones], but is not to be taken over by the Employer after completion.”
<b>Sub-clause 1.1.85 Milestone Certificate</b>	“Milestone Certificate” means the certificate issued by the Employer’s Representative under Sub-Clause 4.24 [Milestones].”
<b>Sub-Clause 1.2 Interpretation</b>	(g) is replaced with the following: (g) “consent” means that the Authority or Employer or the Contractor (as the case may be) agrees to, or gives permission for, the requested matter;
<b>Sub-Clause 1.13 Joint and Several Liability</b>	In sub-paragraph (b), “leader” is replaced with “Lead Member”
<b>Sub-Clause 2.7 Authority’s Engineer</b>	New Sub-Clause added as follows: “The role of the Authority’s Engineer shall be in accordance with the Appendix 1 – “Roles and Responsibilities of the Authority’s Engineer” of this PCC. Notwithstanding anything contained herein, in the event of disagreement among the Employer, the Contractor and the Employer Representative, the decision/recommendation of the Authority’s Engineer shall be final and binding on all Parties.”
<b>Sub-Clause 4.2.1 Contractor’s Obligations</b>	The first sentence of first paragraph is replaced with the following: “The Contractor shall deliver the Performance Security to the Employer prior to signing the Contract Agreement.”
<b>Sub-Clause 4.9.1 Quality Management System</b>	In this Sub-Clause, 1st paragraph is replaced with the following:  “The Contractor shall prepare and implement a QM System to demonstrate compliance with the requirements of the Contract. The QM System shall be specifically prepared for the Works

and submitted to the Employer within 28 days of the Commencement Date. The QM System shall also include a Quality Assurance Plan (QAP) to establish a quality control mechanism, and the Contractor shall, within 28 days of the Commencement Date along with the QM system, submit to the Employer's Representative its Quality Assurance Plan which shall include the following:

- (a) organisation, 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, check list for site activities, and proforma for testing and calibration in accordance with the Employer's Requirements and Good Industry Practice; and
- (c) internal quality audit system.

The Employer's Representative shall convey its comments to the Contractor within a period of 21 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 Sub-Clause. Thereafter, whenever the QM System is updated or revised, a copy shall promptly be submitted to the Employer."

**Sub-Clause 4.23  
Archaeological  
and  
Geological Findings**

Add the following between the first sentence and the first paragraph is replaced with the following:

"All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site of the works shall be the property of the Authority."

Second sentence of the second paragraph is replaced with:

"This Notice shall describe the finding and the Employer shall issue instructions for dealing with it in consultation with the Authority/Government Instrumentality."

This New Sub-Clause added:

**Sub-Clause 4.24  
Milestones**

If no Milestones are specified in the Contract Data, this Sub-Clause shall not apply.

If certain parts of the Works are to be completed within certain times but the



Employer shall not take over such parts when completed (as distinct from the parts of the Works which the Employer shall take over after completion and defined as Sections in the Contract Data) such parts of Works shall be clearly described in the Employer's Requirements as 'Milestones'.

The Contractor shall complete the works of each Milestone (including all work which is stated in the Employer's Requirements as being required for the Milestone to be considered complete) within the time for completion of the Milestone, as stated in the Contract Data, calculated from the Commencement Date. The Contractor shall include, in the initial programme and each revised programme, under sub-paragraph (a) of Sub-Clause 8.3 [Programme], the time for completion for each Milestone. Sub-paragraph (d) of Sub-Clause 8.4 [Advance Warning] and Sub-Clause 8.5 [Extension of the Time for Completion] shall apply to each Milestone, such that "Time for Completion" under Sub-Clause 8.5 shall be read as the time for completion of a Milestone under this Sub-Clause.

The Contractor may apply, by Notice to the Employer's Representative, for a

Milestone Certificate not earlier than 14 days before the works of a Milestone will, in the Contractor's opinion, be complete. The Employer's Representative shall, within 28 days after receiving the Contractor's Notice:

(a) issue the Milestone Certificate to the Contractor, stating the date on which the works of the Milestone were completed in accordance with the Contract, except for any minor outstanding work and defects (as shall be listed in the Milestone Certificate); or

(b) reject the application, giving reasons and specifying the work required to be done and defects required to be remedied by the Contractor to enable the Milestone Certificate to be issued.

The Contractor shall then complete the work referred to in sub-paragraph (b) of this Sub-Clause before issuing a further Notice of application under this Sub-Clause. If the Employer's Representative fails either to issue the Milestone Certificate or to reject the Contractor's application within

the above period of 28 days, and if the works of a Milestone are complete in accordance with the Contract, the Milestone Certificate shall be deemed to have been issued on the date which is 14 days after the date stated in the Contractor's Notice of application.

If Delay Damages for a Milestone are stated in the Contract Data, and if the Contractor fails to complete the works of the Milestone within the time for completion of the Milestone (with any extension under this Sub-Clause):

(i) the Contractor shall, subject to Sub-Clause 20.1 [Claims], pay Delay

Damages to the Employer for this default;

(ii) such Delay Damages shall be the amount stated in the Contract Data, for every day which shall elapse between the time for completion for the Milestone (with any extension under this Sub-Clause) and the date stated in the Milestone Certificate;

(iii) these Delay Damages shall be the only damages due from the Contractor for such default;

(iv) the Delay Damages thus received by the Employer may be reimbursed to the Contractor in case where the Contractor is able to achieve the delayed Milestone along with the subsequent Milestone on time; and

(v) the total amount of Delay Damages for all Milestones shall not exceed the maximum amount stated in the Contract Data (this shall not limit the Contractor's liability for Delay Damages in any case of fraud, gross negligence, deliberate default or reckless misconduct by the Contractor).

**Sub-Clause 6.2**  
**Rates of Wages**  
**and**  
**Conditions of Labour**

The following is added after the first paragraph as the second paragraph:

"The Contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time."

**Sub-Clause 6.6**  
**Facilities for Staff**  
**and**  
**Labour**

The following is added before paragraph:

The Contractor shall make arrangements at his own expense for labour camp / accommodation for labour and staff to be employed for execution of the work and

**Sub-Clause 9.1  
Contractor's  
Obligations**

their conveyance to Site. Proper ID Cards shall be got approved /authorized by the contractor from the Employer's Representative to authorize the Contractor's staff and workers to enter the Site.

After the third paragraph, add the following:

"In any case, the Test on Completion shall be carried out in the presence of the Authority's Engineer wherever so demanded by the Authority's Engineer."

**Sub- Clause 11.9  
Performance  
Certificate**

In the second paragraph, "DAAB" is replaced with "Authority"

**Sub-Clause 12.1  
Procedure for Test  
After  
Completion**

The second paragraph is replaced with the following:

"In any case, the Test after Completion shall be carried out in the presence of Authority's Engineer wherever so demanded by the Authority's Engineer."

**Sub-Clause 13.3.1  
Variation  
Instruction**

by

The Authority/Employer shall provide all electricity, water, sewage services (if applicable), fuel, consumables, materials, and make the Employer's Personnel and Plant available for the Tests after Completion. The Contractor shall:"

The following is added at the end of the Sub-Clause:

"For any additional depth/height of any individual diaphragm wall unit (including underground & over ground) over and above 6(six) meters, which is considered for estimation, will be eligible for additional payment as per actual, over and above the Contract Price. The Bidder shall make its own assessment for determining the depth of diaphragm wall underground on the basis of site conditions and soil investigation and shall submit a detailed design along with necessary technical documents. The payment for additional work/quantity shall be determined on the basis of applicable/extant Schedules of Rates of Government of Kerala."

Geo tube units with 2 layers of 15 m circumference and 20 m length across the length of the Light house beach is considered for estimation. Any variation necessitated as result of the study, duly approved by the Authority's Engineer, will be eligible for additional payment as per actual, over and above the Contract Price.

<b>Sub-Clause 13.7 Adjustments for Changes in Cost</b>	Amend by deleting the entire contents of the Sub-Clause and replacing with the following: Price escalation will be applicable as per G.O(P)No. 84/2023 dated 16.08.2023 as amended at that point of time.
<b>Sub-Clause 15.1 Notice to Correct</b>	The first sentence of the first paragraph is replaced with the following: “If the Contractor fails to carry out any obligation under the Contract the Employer, under intimation to the Authority’s Engineer, may by giving a Notice to the Contractor, require the Contractor to make good the failure and to remedy it within a specified time (“Notice to Correct” in these Conditions). The Notice to Correct shall:”
<b>Sub-Clause 15.2.1 Notice</b>	The first sentence of the first paragraph is replaced with the following: “The Employer shall, with the consent of the Authority’s Engineer, be entitled to give a Notice (which shall state that it is given under this Sub-Clause 15.2.1) to the Contractor of the Employer’s intention to terminate the Contract if the Contractor:”
<b>Sub-Clause 17.3 Intellectual                      and Industrial                      Property Rights</b>	In 3rd paragraph (1st sentence), “The Employer” is replaced with “The Authority, the Authority’s Engineer and the Employer,” In 4th paragraph (1st sentence), “the Employer” is replaced with “The Authority, the Authority’s Engineer and the Employer,” The the 5th paragraph “Employer’s Personnel” is replaced with “Employer’s /Authority’s Personnel”
<b>Sub-Clause 17.4 Indemnities by Contractor</b>	The term “the Employer” mentioned in this Sub-Clause shall be replaced with “the Authority, the Authority’s Engineer the Employer, the Employer’s Personnel, and their respective agents”
<b>Sub-Clause 17.5 Indemnities by Employer</b>	In 1st paragraph (1st sentence), “The Employer” is replaced with “The Authority, the Authority’s Engineer and the Employer,”
<b>Sub-Clause 18.5 Optional Termination</b>	In third paragraph, sub-paragraph (b) is replaced with the following in its entirety: “(b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery.

**Sub-Clause 21.1**  
**Constitution**  
**the**  
**DAAB**

**of**

This Plant and Materials shall become the property of (and be at the risk of) the Authority when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal"

In the fourth paragraph, "Parties" is replaced with "members"

**Sub-Clause 21.2**  
**Failure to Appoint**  
**DAAB Member(s)**

In the paragraph after sub-paragraph (d), "the President of FIDIC or a person appointed by the President" is replaced with "the Authority"  
The last paragraph is deleted

## **Appendix 1**

### **Roles and responsibilities of the Authority's Engineer**

#### **1. The Authority's Engineer**

The Authority's Engineer shall perform its duties and discharge its functions on behalf of the Authority, in accordance with the provisions in these conditions and shall have the final decision in respect of the matters specified below:

- a) Extension of Time (EoT);
- b) Determination of Variation and Adjustments (Clause 13 of GCC);
- c) Termination as per Clause 15 of GCC;
- d) Decision with respect to curing of major defects and damages which will affect the functioning of the Project;
- e) Oversight of Tests on Completion and Tests after Completion;
- f) Delays on the part of the Employer due to which damages are to be paid to the Contractor;
- g) Determination in matters of discrepancy between the Employer and the Contractor.
- h) any other matter which falls beyond the power of the Employer.

The Authority's Engineer shall obtain approval from the Authority prior to performing duties under item (c).

#### **2. Authority's Engineer and the Employer**

- (i) The Employer shall refer the matter with all supporting data to the Authority's Engineer in the matters related to subparagraph (a) to (h) under item 1. The Authority's Engineer shall give his /her decision/response to the matters referred by the Employer within 7 days. In case of any matter to be agreed or determined under these conditions, the Employer's Representative shall proceed under sub-clause 3.5.1 [*Consultation to Reach an Agreement*] to achieve an agreement between the Parties on the matter referred. If the Parties fail to reach an agreement, then the Employer's Representative shall inform the matter to the Employer and the Employer shall refer the matter to the Authority's Engineer, who shall act in place of Employer's Representative, as per sub-clause 3.5.2 [*Employer's Representative's Determination*].  
The Authority's Engineer shall make a fair determination of the matter or Claim, in accordance with the Contract, taking due regard of all relevant circumstances. Within the time limit for determination under Sub-Clause 3.5.3 [*Time limits*], the Authority's Engineer shall give the Notice to both Parties of determination by the Authority's Engineer. This Notice shall state that it is a "Notice of the Authority's Engineer's Determination", and shall describe the determination in detail with reasons and detailed supporting particulars. However, in case of Sub-Clauses 13.3.1[*Variation by Instruction*], 13.3.2 [*Variation by Request for Proposal*], 15.3 [*Valuation after Termination for Contractor's Default*], 15.6 [*Valuation after Termination for Employer's Convenience*], 18.5 [*Optional Termination*], 20.1 [*Claims*], 20.2.5[*Agreement or Determination of Claims*] the Authority's Engineer shall follow the procedure under Sub-Clause 3.5.1[*Consultation to reach an agreement*], in addition to the role under revised Sub-Clause 3.5.2 [*Authority's Engineer's determination*].
- (ii) The Authority's Engineer shall assess the case and give his/her recommendation/decision in the matters referred by the Employer in the following Sub-Clauses:
  - Sub-Clause 1.1.26 [*Dispute*]

- Sub-Clause 1.1.49 [*Notice of Dissatisfaction (NOD)*]
- Sub-Clause 1.3 [*Notices and other communications*]
- Sub-Clause 8.5 [*Extension of Time for Completion*]
- Sub-Clause 9.1 [*Contractor's Obligations*]
- Sub-Clause 11.4 [*Failure to Remedy Defects*]
- Sub-Clause 13.2 [*Value Engineering*]

(iii) In the following Clauses and Sub-Clauses, whenever an agreement cannot be arrived at, the Employer will refer the matter to the Authority's Engineer who will act as mandated, and convey the decision to the Employer.

- Sub-Clause 3.5.1 [*Consultation to reach agreement*]
- Sub-Clause 3.5.2 [*Employer's Representative's determination*]
- Sub-Clause 3.5.3 [*Time Limits*]
- Sub-Clause 3.5.4 [*Effect of the agreement or Employer's Representative's determination*]
- Sub-Clause 3.5.5 [*Dissatisfaction with Determination*]
- Sub-Clause 13.5 [*Day Work*]
- Sub- Clause 14.4 [*Schedule of Payments*]

## **Appendix 2**

### **SCHEDULE OF PAYMENTS**

Key Components of the Project including all Mechanical, Electrical and Plumbing (MEP) and Other Allied Associated Items/Services of Works for successful completion and commissioning of the Project for which the following Payment Milestones and Deliverables shall be strictly adhered to:

1. Development of Silent Valley Sun Bath Park (Refer Cl. 1.2.2.1 and Cl. 1.2.3 of Volume IV – Employer's Requirements)
2. Development of Beachfront side Infrastructure (Hawa, Light House Beach front & Adimalathura Beachfront) (Refer 1.2.2.2 and Cl. 1.2.3 of Volume IV – Employer's Requirements)
3. Development of Corporation Land (Refer 1.2.2.3 and Cl. 1.2.3 of Volume IV – Employer's Requirements)
4. Development of Edakkal Rock Bridge (Refer 1.2.2.4 and Cl. 1.2.3 of Volume IV – Employer's Requirements)
5. Operation & Maintenance (O&M) for Fifteen (15) Years (Refer Cl. 1.2.4 of Volume IV – Employer's Requirements)

The stage wise payment milestones and deliverables have been enumerated in **TABLE-1**.

Sl. No	Description of Milestone	Percentage Breakup of the Awarded Contract Price for the Component A – Capital Cost		Deliverable Timeline
		Subgroup	Cumulative	
A.	<b>SURVEY, INVESTIGATION, PLANNING, DESIGN, ENGINEERING &amp; DRAWINGS</b>	<b>3.0%</b>	<b>-</b>	<b>3 Months from Date of Commencement</b>
i.	On submission of Quality Assurance Plan, Safety Plan, Project Execution Plan, CESMP, etc. to be mentioned with date of submission for approval.	0.3%	0.3%	



Sl. No	Description of Milestone	Percentage Breakup of the Awarded Contract Price for the Component A – Capital Cost		Deliverable Timeline
		Subgroup	Cumulative	
ii.	On approval of Employer/Employer's Representative or Authority's Engineer, the survey, investigations, Planning, Design and Architectural and other Associated Drawings submission for approval of Local Bodies and Statutory Authorities before commencement of works.	0.3%	0.6%	-
iii.	On obtaining of Structural Scrutiny and recommendation for approval of designs from many Government Engineering College as per relevance and directions of Employer/Employer's Representative or Authority's Engineer	0.6%	1.2%	-
iv.	On obtaining all Required Approvals from statutory authorities and local bodies for commencement of Construction as per requirements and directions of Employer /Employer's Representative or Authority's Engineer.	0.6%	2.4%	-
v.	On submission of Project Execution Drawings to Employer /Employer's Representative or Authority's Engineer	0.6%	3.0%	-

Sl. No	Description of Milestone	Percentage Breakup of the Awarded Contract Price for the Component A – Capital Cost		Deliverable Timeline
		Subgroup	Cumulative	
vi.	On submission of all Good for Construction (GFC) drawings as per requirements and directions of Employer/ Employer's Representative or Authority's Engineer.	0.6%	3.0%	-
<b>B</b>	<b>CONSTRUCTION (End of the Quarter)</b>	<b>90.0%</b>	<b>93.0%</b>	<b>17Months from issuance of GFC</b>
i.	2 <sup>nd</sup> Quarter on achieving financial progress of 20%	18.0%	21.0%	-
ii.	3 <sup>rd</sup> Quarter on achieving financial progress of 40%	18.0%	39.0%	-
iii.	4 <sup>th</sup> Quarter on achieving financial progress of 60%	18.0%	57.0%	-
iv.	5 <sup>th</sup> Quarter on achieving financial progress of 80%	18.0%	75.0%	-
v.	6 <sup>th</sup> Quarter on achieving financial progress of 100%	18.0%	93.0%	-
<b>C</b>	<b>COMPLETION/ COMMISSIONING (In the 6<sup>th</sup> Quarter)</b>	<b>7.0%</b>	<b>100%</b>	<b>1 Month from 100% Financial progress</b>
i.	Installation, Testing, Trail Run and Commissioning	6.0%	99.0%	-
ii.	Submission of As-Built Drawings to the Employer	1.0%	100.0%	-
				<b>21 Months</b>
<b>D</b>	<b>OPERATION AND MAINTENANCE</b>			
	Percentage payment for O&M (15 years) (Payment Schedule shall be as per Table 2)	100% of the Awarded Component B – O&M Cost as per Section C of Volume VI – Financial Bid	100.0%	
	<b>TOTAL</b>	<b>100.0%</b>	<b>-</b>	

<b>TABLE 2</b> <b>PAYMENT SCHEDULE FOR O&amp;M</b>		
<b>S. No.</b>	<b>At the End of</b>	<b>Payment of O&amp;M Cost</b>
	Every year (1-15 years)	1/15th of the amount quoted, indexed/adjusted for change in Price Index Multiple.

**Note:**

- i. The successful bidder shall submit a component-wise payment schedule based on the physical progress of the work which will be accepted by the Employer. This document will be made part of the agreement, and the activity will be completed before signing the agreement.
- ii. In case, a certain milestone is not applicable in a particular component then the corresponding payment can be claimed along with the subsequent milestone of the same component.
- iii. The total completion period of the Project as per scope of work shall be 21 months and no additional time will be allotted to the successful bidder unless approved by the Employer.
- iv. Payment for Operation and Maintenance for Fifteen (15) Years shall be released each year of successful conducting services to operation & Maintenance as per terms and conditions laid in the payment milestone for O&M period.
- v. During O&M period, 1st Year shall start from date of issuance of Taking Over Certificate or taking over whichever is later. On the recommendation of the Authority, the Funding Agency shall release payment due to the Contractor after deducting damages if any.
- vi. The Lump-sum quote for O&M price for each component as mentioned in Financial Bid shall be paid in equal instalments for the period of 15 years. That means 1/15th of the amount quoted will be paid every year subject to price adjustments as explained below.
- vii. The O&M Price payable per year will be indexed/adjusted for change in Price Index Multiple.
- viii. Price Index Multiple- means, the variation multiple in the O&M Price Index (OPI), which is calculated by dividing the price index on the Reference Index Date preceding the date of the Invoice by the price index on the Reference Index Date preceding the Bid Due Date. For the avoidance of doubt and by way of illustration, if (a) the price index on the Reference Index Date preceding the Bid Due Date, say 10 September, 2024, is 200; (b) the Invoice is submitted on 15 April, 2025; and (c) the price index as on 31 March, 2025 is 210, then the Price Index Multiple for determination of the amount due in respect of such Invoice shall be 1.05.
- ix. Reference Index Date - means, in respect of a specified date, the last date of the preceding month with reference to which the O&M Price Index is revised.
- x. O&M Price Index (OPI) shall comprise of: 60% of CPI; and 40% of WPI.

**APPENDIX 3**  
**PREAMBLE TO FINANCIAL BID**

- a) The Contractor shall be deemed to have read and examined the Tender Document before quoting the rates. The Drawings, Specifications, Schedules etc. are to be considered explanatory to each other and no advantage shall be taken of any omission in tender documents.
- b) It is mandatory for the Contractor to visit the site and make himself thoroughly aware of the site conditions, assess and account for all possible difficulties and requirements mentioned elsewhere in this bid prior to submission of his bid. It will be considered that Contractor has quoted this work with full and complete knowledge of the site and prevailing condition and no claim for additional compensation shall be entertained on this account.
- c) The Contractor shall be deemed to be fully conversant with the site condition, the nature and type of the work to be undertaken, the other development and construction work being executed or which may be executed on and around the Site and all changes in the condition of the site from that existing at the time of Tender and have made full allowance in his Tender for the same.
- d) General directions and descriptions of scope of work and materials given in Specifications or shown in the Drawings are not necessarily repeated in the component and reference is to be made to the Specification and the Drawing for information.
- e) No payment shall be made to the Contractor for any surplus quantity of material brought at Site or wastage.
- f) The rates quoted in the financial bid schedule shall be all inclusive value for the work described and be deemed to include for all the Contractor's liabilities and obligations and all risks set forth or implied in the document and all matters and things necessary for the proper construction, of the Works including surveying, setting out, plant, labour, supervisor, materials, erection, maintenance, insurance, profit, taxes and duties together with all general risks liabilities and obligations set out or implied in the Contract.

Under Volume VI Financial Bid (BoQ) against each item description, there are two amounts to be filled

- i) Cost of construction of component.
- ii) O&M cost for 15 years for that particular component.

There are in total six components.

For financial evaluation, the cost of construction of 6 components will be added together to arrive at the Contract Price (A). Similarly, O&M cost for these 6 components will be added together to arrive at the total O&M cost (B).

For evaluation of the tender, the total of (A) & (B) i.e. (A+B) will be considered.

- g) The basis of payment will be on milestone achieved, as approved by the Employer's Representative.
- h) No allowance will be made for wastage, rolling margin, working space, bulkage or shrinkage, etc.
- i) All works shall be carried out strictly as per Specifications and standards only.
- j) All works such as obtaining necessary permissions, supply connections, etc. relating to establishing of electric supply, water supply from the related agencies to all the units constructed under this contract are required to be carried out by the Contractor.
- k) The rates quoted are to be considered as the full inclusive rate for the finished work, covering all labour, material, royalties, lease, wastage, rent, temporary work, plan equipment, overhead charges and profit etc., unless otherwise specified.
- l) The Bidders shall be deemed to have allowed in his price, provision for survey, designs, field

investigations, site clearance, contingencies, maintenance and final removal of all temporary works of whatsoever nature required for construction including temporary bunds, diverting water, pumping, dewatering and availability of material of required quality etc for the proper execution of works. The rates shall also be deemed to include any works and setting out that may be required to be carried out for laying out of all the works involved.

- m) The spares and tools & tackles shall be purchased by the contractor to ensure availability of the same on the day one of DNP. The spares shall be used during DNP and shall be replenished in shortest possible period as approved by the Employer.
- n) The rates have been worked out considering there is no exemption of Excise Duty/ GST on any material.

Unless stated otherwise, all rates and prices entered in the component shall be deemed to include the following:

- Labour and all costs in connection with the execution and maintenance of the work.
- The supply of the materials, goods, storage and all costs in connection therewith including wastage, shrinkage and delivery to site.
- Plant, Equipment and all costs in connection therewith.
- Sampling and testing materials and goods, testing workmanship, providing, storing, packing and transporting samples to and from the place of testing.
- Fixing, erecting, installing or placing of materials and goods in position.
- All Temporary works.
- Construction and maintenance of temporary access roads within the site and of any roads required for access to any part of the site for the purpose of carrying out the works, taking into account that the access roads under the contractor's maintenance control will also be used by the Employer and his staff's vehicles.
- Construction, maintenance and removal, if required, of temporary site Drainage on the site, and for ensuring that all Drains are kept clear of debris and blockage at all items.
- All general obligations, liabilities and risks involved in the execution and maintenance of the work set forth or reasonably implied in the document on which the Tender is based.
- The prices for transportation included in any of the component are to include for all labour and equipment required for unpacking, loading, conveying, unloading, storing and multiple handling of all items to be transported.



# **WAPCOS LIMITED**

**(A Government of India Undertaking)**

**Ministry of Jal Shakti**

## **GUIDING BIDDING DOCUMENTS (GBD)**

**For**

**Selection of**

**Engineering, Procurement and Construction (EPC) Contractor for  
Development of Kovalam & Adjacent beaches in Thiruvananthapuram, Kerala**

**Tender No.: WAP/INFRA/KERALA/24/TSM/480-1**

**Issued on: (19.08.2024)**

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**VOLUME – IV**  
**EMPLOYER'S REQUIREMENT**

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## 1.1 PROJECT OVERVIEW

### 1.1.1 AIM

The Kovalam Beach is popular and is widely famous among both domestic as well as international tourists. The shape of the beach, in the form of an '***inverted comma***' has its significance both geographically in terms of scenic beauty.

As part of the implementation of the Comprehensive Development Plan to restore the lost glory of Kovalam Beach, from the present crisis situation created due to the Beach Erosion caused by multiple natural disasters followed by the outburst of Pandemic Covid-19, a DPR for the "Development of Kovalam & Adjacent Beaches Phase 1" was prepared by KIIFB - TRC and approved by KIIFB for Funding. It was decided to select suitable Agency for the Development, Execution and Commissioning of the Project to the entire satisfaction of the Tourism Department, Government of Kerala

In order to ensure a unified and cohesive beachscape, the Project aims to recommend state-of-the-art infrastructure facilities that integrate with the improved existing facilities, thereby enhancing beachfront activities and experiences.

The main objective is to make the beach vibrant thereby drawing more visitors and promote a diverse and welcoming coastal community. The Project is planned to be developed with the further goal of achieving Kerala's second Blue Flag Certified Beach in future.

Which denotes compliance with stringent Environmental and Sustainability Standards. This Distinguished Certification will help to enhance Kovalam's Global Position as a Leader in Environmentally Responsible Coastal Development in addition to Promoting Responsive Tourism.

### 1.1.2 OBJECTIVE

- To develop the infrastructure facilities at Hawa Beach & Light House Beach and bio fencing at Adimalathura Beach.
- To develop the public infrastructure available at Kovalam beach and thereby enhancing the built environment as well as the local standards of living.
- Transforming the beach in such a way to provide world class experiences to the tourists without affecting the society and environment.
- To provide beach accessibility for all people inclusive of differently abled so that everyone will get an opportunity for engaging themselves in all activities and can freely use all resources available in the beach.

- To renovate the Silent Valley Sun Bath Park.
- To develop of the Corporation Land
- The project requires adherence to Blue Flag certification standards, ensuring that the development aligns with globally recognized sustainability and environmental guidelines. While actual certification may not be the end goal, this commitment underscores our dedication to creating a project of the highest ecological standards.
- To develop Edakkal rock near Hawa beach by constructing a foot bridge connecting two rock formations and a platform for visitors.

### 1.1.3 PROJECT AREA

The Project area stretches over a total length of 4.00 kms (approx.), out of which the 2.00 kms (approx.) constitute the Kovalam Beach that begin from Silent Valley Sun Bath Park to Light house beach, and rest 2.00 kms constitute Adimalathura Beach that begin from Somatheeram towards south of Adimalathura Beach.

The Project focuses on the development of Kovalam and adjacent beaches (Hawa Beach, Light House Beach & Adimalathura Beach), renovation of the Silent Valley Sun Bath Park at Hawa beach, Development of Corporation land, Development of walkways on Hawa Beach and Lighthouse Beach; Land demarcation at the Adimalathura beach.

**The major locations considered for development are:**

1. Hawa Beach
2. Silent Valley Sun Bath Park
3. Light House Beach
4. Corporation Land
5. Adimalathura Beach

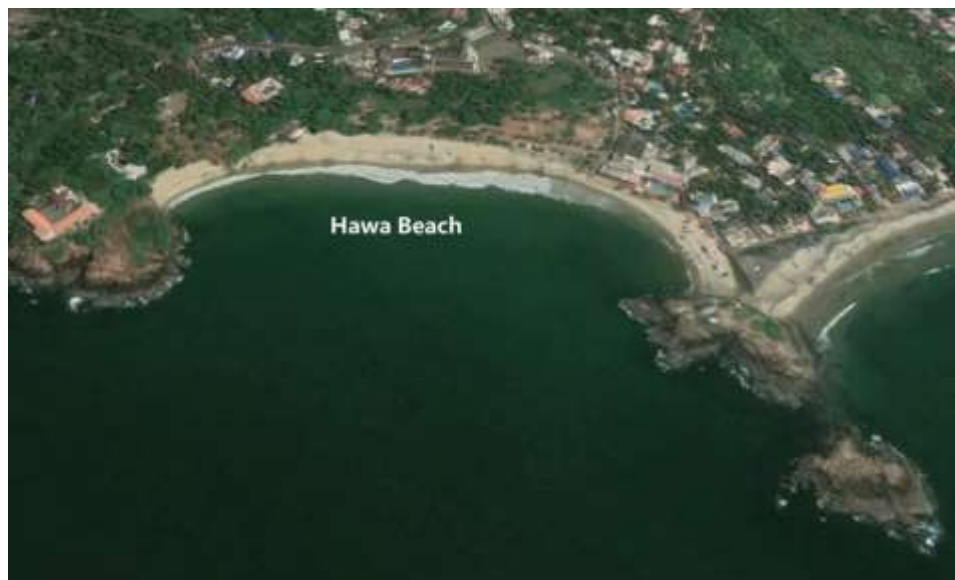


**Figure 1: Location Map**

## 1. Hawa Beach

One of Kovalam's most well-known tourist destinations is Hawa Beach, which is renowned for its distinct elegance and breathtaking beauty. It is located north of Light House Beach in Kovalam. The beach is attractive due to its unspoiled and tranquil atmosphere, which is enhanced by one side that features charming hillocks. Owing to its comparatively lower crowding, Hawa Beach turns into a perfect sanctuary for those seeking peace and serene environment (tranquillity). The beach's attraction is further enhanced by the breathtaking displays of sunrise and sunset.

In addition, a viewing foot bridge shall be executed at Edakkal rocks which will cross the beach at Hawa & Eve, providing stunning vistas of dawn and dusk. This bridge is expected to enhance the visitor experience. To handle the increased number of tourists, several infrastructure improvements shall be executed at Hawa Beach as part of this Project.



## 2. Silent Valley Sun Bath Park-

The Silent Valley Sun Bath in Kovalam offers private beach access and is immersed in a particular traditional character and traditions. It is located next to the tourist information center on the road to Hotel Leela Raviz. The site's historical value cannot, however, be completely appreciated with the current infrastructure.



Currently, the common approach road through Hotel Leela Raviz is the only way to access the Silent Valley Sun Bath Park.

There is a restricted entry to the park from the Government Guest House Kovalam. The Silent Valley Sun Bath Park shall be renovated and expanded in this Project with the intention of preserving and enhancing its distinctive historical value. The ancient charm of the property should be restored, the facilities should be improved. With the help of the suggested upgrades, the Silent Valley Sun Bath Park will develop into an alluring location that pays homage to its historical roots and offers guests improved amenities and a richer understanding of Kovalam's cultural legacy.

The rehabilitation of Silent Valley Sun Bath Park should be done considering the historical importance of the beach in order to preserve its heritage value. In order to connect Silent Valley and the gateway entrance of the beach, a new walkway/ bridge shall be executed.

The purpose of this development is to preserve the historical legacy, advance sustainable tourism, and offer guests a memorable and enlightening coastline experience at Hawa Beach.

### **3. Light House Beach**

The Light House Beach is a beautiful and alluring location located near Kovalam along the Arabian Sea coast. It has a lively and busy environment because it is Kovalam's largest and most visited beach. The beach's southernmost position affords a beautiful view of the 35-meter-tall Vizhinjam Lighthouse.



An extensive remodelling Project shall be executed to improve the area of Light House Beach, its amenities and appeal. This includes improving already-existing facilities like pathways, underground cabling, restrooms etc to give tourists a more comfortable and enjoyable stay. The development is envisaged to establish a point of access to the southern portion of the beach, making it simpler for beachgoers to get there. Additionally, a concentrated development effort will concentrate on the nearby corporation land, maximizing its potential for both visitors and locals.

The Light House Beach must be developed in a way that will make it as a premier coastal destination with the implementation of suggested initiatives, integration of natural beauty with contemporary conveniences and fulfilment of the interests of the visitors.

### **4. Corporation Land**

The Corporation Land is situated right in the middle of the Light House Beach. The Project envisages the development of Corporation Land in such a way that it becomes

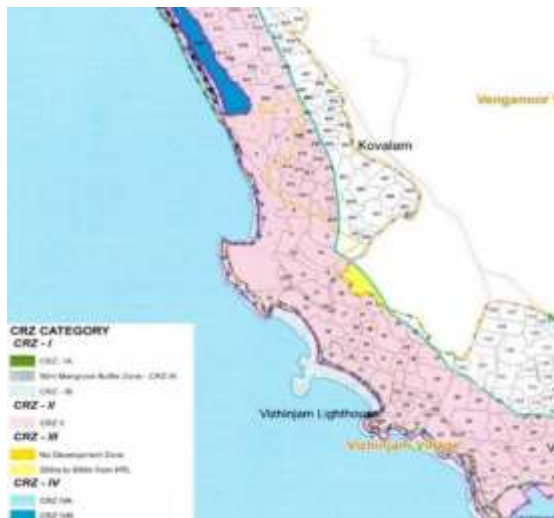
a gateway to the Light House Beach and its adjacent beaches. It shall host the several public amenities, food courts, administrative offices, etc. It shall be connected with the Light house beach on the southern side and shall be connected to the upcoming parking in the northern side, in future.

## **5. Adimalathura Beach**

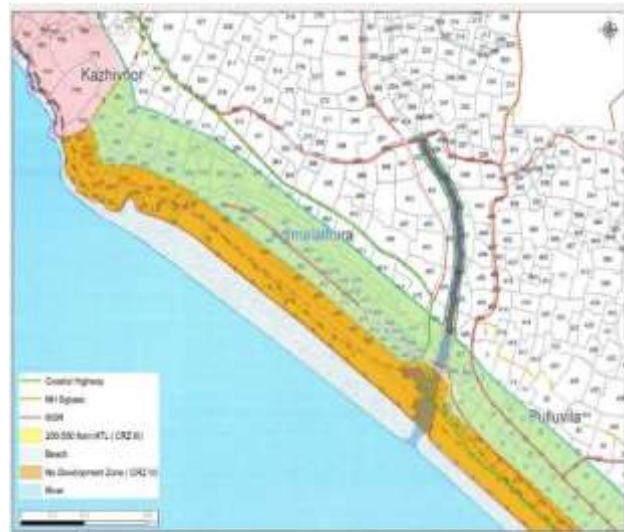
Adimalathura literally means “port with a hill beneath”. The location of the Adimalathura village is on the top of a vast undersea submarine mountain range of the Arabian Sea near Kovalam in Thiruvananthapuram district. It is bordered by the Karichal lake in the eastern side, the Chowara hills in the north, rocks vanishing into the Arabian sea in the south and west. It languishes under the green canopy formed by coconut palms. The boundary demarcation in Adimalathura Beach is also part of the Project.

#### 1.1.4 COASTAL REGULATION ZONING IN KOVALAM

As per the data obtained from KCZMA, the stretch of Kovalam falls under CRZ- II; Adimalathura under CRZ- III and Vizhinjam Lighthouse under CRZ- I B.



Map showing the CRZ of Thiruvananthapuram district with Kovalam under CRZ II



Map showing Adimalathura CRZ Zone.

Note: The above figures are of representation purpose and consider for information only

### **1.1.5 PRE-DESIGN RESEARCH AND DATA COLLECTION**

The Project must first complete a critical phase of pre-design research and data collection before moving on to the design phase. These first stages provide the groundwork for a thoughtful and sustainable development, ensuring that the Project is in line with its surroundings, legal obligations, and long-term objectives. The following areas are to be explored:

#### **1.1.5.1 Site Survey and Analysis:**

Conduct a comprehensive site survey to gather accurate topographic, geological, and environmental data. Analyze the coastal dynamics, including wave patterns, tides, erosion, and sediment movement. The available Geo Technical study report are attached as Annexure B.

#### **1.1.5.2 Heritage and Cultural Impact Assessment:**

Assess the historical and cultural significance of the Project area to determine any potential impacts on heritage sites or local communities.

#### **1.1.5.3 Environmental and Social Baseline Data:**

Gather baseline data on the environmental and social aspects of the Project area, including flora, fauna, ecosystems, and local communities.

#### **1.1.5.4 Geotechnical Investigation:**

Perform geotechnical studies to understand the soil conditions, bearing capacity, and any potential challenges for construction.

#### **1.1.5.5 Hydrological and Hydrogeological Study:**

Evaluate the water flow patterns, drainage systems, and potential groundwater interactions to ensure proper infrastructure planning.

#### **1.1.5.6 Coastal Engineering Study:**

Analyze the coastal erosion patterns and recommend appropriate measures to protect the beach area and structures.

#### **1.1.5.7 Traffic Impact Assessment:**

Assess the potential traffic impact of the Project on local transportation networks and suggest mitigation measures if needed.

#### **1.1.5.8 Utility Assessment:**

Identify existing utility lines and infrastructure in the Project area to avoid conflicts during construction.

#### **1.1.5.9 Structural Feasibility Study:**

Evaluate the feasibility of the structures, bridges, walkways, and other amenities in consideration of the coastal environment.

#### **1.1.5.10 Environmental and Climate Analysis:**

Evaluations of local climate conditions, environmental impact, and challenges, guiding design decisions to withstand environmental stresses.



**1.1.5.11 Power Supply and Distribution Study:**

Study the existing power supply, assess load requirements, and design an efficient power distribution system considering the coastal conditions.

**1.1.5.12 Wastewater Management Study:**

Develop a wastewater management plan that addresses sewage disposal, stormwater runoff, and potential contamination of coastal waters.

**1.1.5.13 Materials and Construction Techniques Study:**

Suitable materials and construction techniques that can withstand the coastal environment's corrosive effects.

**1.1.5.14 Safety and Risk Assessment:**

Identify potential safety hazards and risks associated with construction activities, proposing measures to ensure worker and public safety.

**1.1.5.15 Community Engagement and Stakeholder Consultation:**

Engage with local communities, businesses, and stakeholders to understand their concerns and gather input on the Project.

**1.1.5.16 Sustainability and Green Design Assessment:**

Evaluate opportunities for integrating sustainable practices, renewable energy, and eco-friendly features into the Project design.

**1.1.5.17 Financial Viability Study:**

Assess the financial viability of the Project, considering both construction and long-term operational costs.

**1.1.5.18 Legal and Regulatory Compliance Review:**

Ensure that the Project adheres to all local, regional, and national regulations, obtaining necessary permits and approvals. Any fee to be payable for legal compliance will be borne by the Contractor.

- I. The Contractor shall obtain, as required under Applicable Laws, the following Applicable Permits but not limited to:
  - a. Permission of the State Government for drawing water from river/reservoir;
  - b. Licence from inspector of factories or other competent Authority for setting up batching plant;
  - c. Clearance of Pollution Control Board for setting up batching plant;
  - d. Permission of Village Panchayats and State Government for borrow earth; and
  - e. Any other permits or clearances required under Applicable Laws.



- II. Applicable Permits, as required, relating to environmental protection and conservation shall have been procured by the Authority in accordance with the provisions of this Agreement.

**1.1.5.19** Any other relevant studies which are required for the scientific basis of design.

### **1.1.6 GENERAL SPECIFICATIONS AND STANDARDS**

The execution of the Work shall strictly adhere to the CPWD/KPWD specifications that have been updated to the latest version at the time of tender submission, unless specifically stated otherwise. The Project's guiding specifications include the following codes and standards:

1. CPWD specification
2. Kerala PWD Specification
3. BIS specification
4. National Building Code 2016
5. National Electrical Code, 2011
6. Indian Electricity Act 2003
7. Requirements of the local Water Supply Company, Electricity Supply Company/ Department.
8. Requirements of the Pollution Control Board, Fire Department, Aviation authorities, and other statutory authorities, as applicable.
9. Requirements of any other standards and bye-laws as applicable.
10. Applicable particular specifications
11. Brief List of Specifications and BIS codes to be followed.

The following are the respective CPWD sub sections/clauses relating to the relevant items of works under this package. Where there is discrepancy between CPWD specifications and BIS codes the former will prevail. In addition to the provided list, if there are any other specifications or standards applicable to works not explicitly mentioned here, it is essential to adhere to the relevant standards from BIS or CPWD as appropriate.

<b>SI No</b>	<b>Item description</b>	<b>Specificati on reference</b>	<b>IS Ref:</b>	<b>Remarks</b>
1	Earth work excavation,	CPWD specificatio	1. IS: 783 -1985 Code of practice for laying of concrete pipes.	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
	felling trees etc	ns 2.0 to 2.27	<p>2. IS: 1200-1992 Method of Measurement of Building Works (Part I).</p> <p>3. IS: 3764-1992 Safety code for excavation work.</p> <p>4. IS: 3385 Code of practice for measurement of Civil Engineering Works.</p> <p>5. IS: 2720-1983 Method of test of soils (All parts)</p> <p>6. IS: 1498-1980 Classification and identification of soils for General Engineering purposes</p> <p>7. IS: 2809 Glossary of terms and symbols relating to Soil Engineering</p> <p>8. IS: 4081-1986 Safety code for blasting and related drilling operations</p> <p>9. IS: 4988 Glossary of terms and classifications of earth moving machinery (All Parts)</p>	
2	PCC	CPWD specifications sub head 4.0	<p>1.IS 456</p> <p>2. Ordinary Portland cement, 33 Grade, conforming to IS: 269-1989.</p> <p>3. Rapid Hardening Portland Cement, conforming to IS: 8041-1990.</p> <p>4. Ordinary Portland cement, 43 Grade, conforming to IS: 8112-1989.</p> <p>5. Ordinary Portland cement, 53 Grade, conforming to IS: 12269-1987.</p> <p>6. Sulphate Resistant Portland cement, conforming to IS: 12330-1988.</p>	
3	RCC works	CPWD specifications sub head 5.0	<p>1.IS: 269-1989</p> <p>Specification for Ordinary, Rapid-Hardening and Low Heat Portland Cement.</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>2.IS: 455-1989</b> Specification for Portland Blast Furnace Slag Cement.</p> <p><b>3.IS: 1489-1991</b> Specification for Portland- Pozzolana Cement.</p> <p><b>4.IS: 4031-1996</b> Methods of Physical Tests for Hydraulic Cement.</p> <p><b>5.IS: 650-1991</b> Specification for Standard Sand for Testing of Cement.</p> <p><b>6. IS: 383</b> Specification for Coarse and Fine Aggregates from Natural Sources for Concrete.</p> <p><b>7.IS: 2386-1983</b> Methods of Test for Aggregates for Concrete. (Part I To VIII)</p> <p><b>8.IS: 516-1959</b> Method of Test for Strength of Concrete.</p> <p><b>9.IS: 1199-1959</b> Method of Sampling and Analysis of Concrete.</p> <p><b>10.IS: 3025-1987</b> Method of Sampling and Test (Physical and Chemical) Water Used in Industry.</p> <p><b>11.IS: 432-1982</b> Specification for Mild Steel and Medium Tensile Steel Bars and Hard Drawn Steel</p> <p>Wire for Concrete Reinforcement. (Part I &amp; II)</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>12.IS: 1139-1966</b></p> <p>Specification for Hot Rolled Mild Steel and Medium Tensile Steel Deformed Bar for Concrete Reinforcement.</p> <p><b>13.IS: 1566-1982</b></p> <p>Specification for Plain Hard Drawn Steel Wire Fabric for Concrete (Part-I) Reinforcement.</p> <p><b>14.IS: 1785</b> Specification for Plain Hard Drawn Steel Wire for Prestressed Concrete.</p> <p><b>15.IS: 1786-1985</b></p> <p>Specification for Cold Twisted Steel Bars for Concrete Reinforcement.</p> <p><b>16.IS: 2090</b> Specification for High Tensile Steel Bars Used in Prestressed Concrete.</p> <p><b>17.IS: 4990-2001</b></p> <p>Specification for Plywood for Concrete Shuttering Work.</p> <p><b>18.IS: 2645-1975</b></p> <p>Specification for Integral Cement Water-Proofing Compounds.</p> <p><b>BS: 4461</b> Cold Worked Steel Bars for The Reinforcement of Concrete.</p> <p><b>19.IS: 4098</b> Lime Pozzolana Mixture (1st Revision) (Amendment 2)</p> <p><b>IS: 3201</b> Criteria for Design and Construction of Precast Concrete Trusses.</p> <p><b>20.IS: 2204</b> Code of Practice for Construction of Reinforced Concrete Shell Roof.</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>21.IS:</b> 2210 Criteria for The Design of R.C. Shell Structures and Folded Plates.</p> <p><b>22.IS:</b> 2751-1979</p> <p>Code of Practice for Welding of Mild Steel Bars Used for Reinforced Concrete Construction.</p> <p><b>23.IS:</b> 2502-1963</p> <p>Code of Practice for Bending and Fixing Vibrators for Consolidating Concrete.</p> <p><b>24.IS:</b> 3558-1983</p> <p>Code of Practice for Use of Immersion Vibrators for Consolidating Concrete.</p> <p><b>25.IS:</b> 3414-1968</p> <p>Code of Practice for Design and Installation of Joints in Buildings.</p> <p><b>26.IS:</b> 4014-1967</p> <p>Code of Practice for Steel Tubular Scaffolding. (Part I &amp; II)</p> <p><b>27.IS:</b> 2571-1970</p> <p>Code of Practice for Laying In-Situ Cement Concrete Flooring.</p> <p><b>28.IS:</b> 2250 Code of Practice for Preparation and Use of Masonry Mortar (1st Revision)</p> <p><b>29.9.2.5 Construction Safety</b></p> <p>IS: 3696-1987</p> <p>Safety Code for Scaffolds and Ladders. (Part I &amp; II)</p> <p><b>30.IS:</b> 3385 Code of Practice for Measurement of Civil Engineering Works.</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<b>31.9.2.6 Measurement</b>  IS: 1200 Method of Measurement of Building Works.  <b>32.IS: 3385 Code of Practice for Measurement of Civil Engineering Works.</b>	
	Masonry Brick work/laterite stones	CPWD specificatio ns sub head 7.0	<b>1.IS 3620(Laterite),</b> <b>2.IS: 1077-1992</b>  Specifications for Common Burnt Clay Building Bricks  1. IS: 1200 Measurements for Building Works  2. IS: 1725 Specifications for Solid Cement Blocks used in General Building Construction  3. IS: 1905-1987  4. Code of Practice for Structural Safety of Buildings: Masonry Walls.  5. IS: 2116-1980  6. Sand for Masonry Mortars  7. IS: 2180 Specification for Heavy Duty Burnt Clay Building Bricks  8. IS: 2185-1979  9. Specification for Concrete Masonry Units: Hollow and Solid Concrete Blocks  10.IS: 2212-1991  11.Code of Practice for Brick Work  12.IS: 2222 Specification for Burnt Clay Perforated Building Bricks  13.IS: 2691-1988	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			14. Specification for Burnt Clay Facing Bricks 15. IS: 3414-1968 16. Code of Practice for Design and Installation of Joints in Buildings 17. IS: 3466 Specification for Masonry Cement 18. IS: 3952 Specification for Burnt Clay Hollow Blocks for Walls and Partitions 19. IS:1124 water absorption and specific gravity of laterite stones 20. IS:1121 compressive strength of laterite stones 21. IS 1197(Pt.I) (Rubble)	
5	Joinery works	CPWD specifications sub head 9.0	1. IS: 205 Specifications for non-ferrous metal butt hinges 2. IS: 287-1993 Recommendation for maximum permissible moisture content of timber used for different purposes. 3. IS: 303 Specification for plywood for general purpose 4. IS: 362 Specification for parliament hinges 5. IS: 419-1967 Specification for putty for the use on window frames 6. IS: 883 Code of practice for design of structural timber in building. 7. IS: 1003-1991 Specification for Timber paneled and glazed shutters Part II - Window and	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p>ventilator shutters</p> <p><b>8.IS:</b> 1200-1992</p> <p>Method of measurement of building and Civil Engineering Works - Wood Work and Joinery</p> <p><b>9.IS:</b> 1341 Specification for steel butt hinges</p> <p><b>10.IS:</b> 1658 Specification for Fiber Hard Boards</p> <p><b>11.IS:</b> 1761 Specification for transparent sheet glass for glazing and framing purposes.</p> <p><b>12.IS:</b> 3087 Specification for wood particle boards (medium density for structural timber building)</p> <p><b>13.IS:</b> 1956 Glossary of terms relating to iron and steel</p> <p><b>14.IS:</b> 814-1991(Part I)</p> <p>Specifications for covered electrodes for metal are welding of structural steel.</p> <p><b>15.IS:</b> 814-1991(Part II)</p> <p>1. For welding products other than sheets, Specifications for covered electrodes for metal are welding of structural steel.</p> <p>2.For welding sheets</p> <p><b>16. IS:</b> 815 Classification and coding of covered electrodes for metal are welding and cutting operation.</p> <p><b>17.IS:</b> 1948-1961</p> <p>Aluminum doors, windows &amp; ventilators.</p> <p><b>18.IS:</b> 6227 Code of Practice for use of metal are welding in tubular structure</p>	



SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>19.IS: 6248-1979</b> Specifications for metal rolling shutters and rolling grill</p> <p><b>20. IS: 1081-1960</b> Code of Practice for fixing and glazing of metal (steel and aluminum) doors, windows and ventilators.</p> <p><b>21.IS: 2062-1999</b> Weldable Structural Steel</p> <p><b>22.IS: 1361-1978</b> Specifications for steel windows for Industrial Buildings</p> <p><b>23.IS: 1200-1993(Part VIII)</b> Measurements for steel work and iron work</p> <p><b>24.IS: 1038-1983</b> Specifications for steel doors, windows, and ventilators.</p> <p><b>25.IS: 226-1975</b> Specifications for structural steel (Standard quality)</p> <p><b>26.IS: 823</b> Code of procedure for manual metal arc welding of metal steel</p> <p><b>27.IS: 102-1962</b> Ready mixed paint, brushing, red lead non-sitting, and priming.</p> <p><b>28.IS: 1363-1992</b> For black hexagon bolts, nut and lock nuts (dia. 6 to 39mm) and black hexagon screws (Dia. 6 to 24mm)</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<b>29.</b> IS: 813 Scheme of symbols for welding.	
6	Flooring	CPWD specifications sub head 11.0	<b>1.</b> IS: 1130-1969 Specification for Marble (Blocks, Slabs and Tiles) (Reaffirmed 1993) <b>2.</b> IS: 1141-1973(1141-1993)* Code of Practice - Seasoning of Timber (2nd Revision) <b>3.</b> IS: 1197-1970 Code of Practice for Laying Rubber Floors (1st Revision (Reaffirmed 1990) <b>4.</b> IS: 1198-1982 Code of Practice for Laying, Fixing Ad Maintenance of Linoleum Floor (1 <sup>st</sup> Revision) (Reaffirmed 1990) <b>5.</b> IS: 1200 (PartXI) 1977 Method of Measurement of Building and Civil Engineering Work (Part XI) Paving, Floor Finishes, Dado and Skirting) (3rdRevision) (Amendment1) (Reaffirmed 1992) <b>6.</b> IS: 1237-1980 Specification for Cement Concrete Flooring Tiles (1st Revision) (Reaffirmed1990) <b>7.</b> IS: 1322-1982(1322-1993) Specification For Bitumen Felts for Water Proofing and Damp-Proofing (4thRevision) <b>8.</b> IS: 1443-1972 Code or Practice for Laying and Finishing of Cement Concrete Flooring Tiles (1st Revision) (Reaffirmed 1991) <b>9.</b> IS:1489(Part-1) 1991	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p>Specification for Portland Pozzolana Cement (Part - 1) Fly ash Based (3rd Revision)</p> <p><b>10.IS: 1489- (Part-II) 1991</b></p> <p>Specification for Portland Pozzolana Cement (Part II) Calcined Clay Based (3rdRevision) (Amendment 1)</p> <p><b>11.IS: 1580-1991</b> Specification for Bituminous Compounds of Water Proofing and Caulking Purpose (3rd Revision)</p> <p><b>12.IS: 1195</b> Bitumen Mastic for Flooring</p> <p><b>13.IS: 3384-1990</b> Bitumen Primer for use in Waterproofing and Damp Proofing</p> <p><b>14.IS: 4832(Part - 1)</b></p> <p>Acid Resistant Mortars - Silicate Type</p> <p><b>15.IS: 4832(Part - 2)</b></p> <p>Acid Resistant Mortars - Resin Type</p> <p><b>16.IS: 4457</b> Ceramic Unglazed Vitreous Acid Resisting Tiles</p>	
7	Painting and Finishing	CPWD specifications sub head 13.0	<p><b>1.IS: 16-1991(Part: I)</b></p> <p>Shellac: Part: I-Hand Made Shellac (3rd Revision)</p> <p><b>2.IS: 16-1991(Part :II)</b></p> <p>Shellac: Part: II-Machine Made Shellac (3rd Revision)</p> <p><b>3.IS: 75-1973</b> Linseed Oil, Raw and Refined (Reaffirmed 1990) (2nd Revision)</p> <p><b>4.IS: 77-1976</b> Ready Mixed Paint, Brushing, Red Lead, Non setting, Priming (Reaffirmed</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p>1991)(Revised)</p> <p><b>5.IS:</b> 102-1962 Specification For Ready Mixed Paint, Brushing, Zinc Chrome, Priming (Reaffirmed 1993) (2nd Revision)</p> <p><b>6.IS:</b> 104-1979 Ready Mixed Paint, brushing, priming Plaster to Indian Standard Colour No. 361, 631 White and off White (Reaffirmed 1993) (1st Revision)</p> <p><b>7.IS:</b> 109-1968 Ready Mixed Paint, Brushing, priming Plaster to Indian Standard Colour No. 361, 631 White and off White (Reaffirmed 1993) (1st Revision)</p> <p><b>8.IS:</b> 117-1964 Ready Mixed Paint, Brushing, Finishing Exterior, Semigloss For General Purposes to Indian Standards Colours (Reaffirmed 1988) (Revised)</p> <p><b>9.IS:</b> 133-1993 Enamel, Interior (a) Under Coating (b) Finishing (3rd Revision)</p> <p><b>10.IS:</b> 137-1965 Ready Mixed Paint, Brushing, Matt or Egg Shell Flat, Finishing Interior to Indian Standard Colour as required (Revised 1993)</p> <p><b>11.IS:</b> 158-1981 Ready Mixed Paint, Brushing, Bituminous Black, Lead Free, Acid, Alkali and Heat Resisting (Reaffirmed 1988) (3rd Revision)</p> <p><b>12.IS:</b> 217-1988 Specification for Cut Back Bitumen (2nd Revision)</p> <p><b>13.IS:</b> 218-1983 Specification for Creosote and Anthracene Oil for use as Wood Preservatives (Reaffirmed 1990) (2nd Revision)</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>14.IS:</b> 290-1961 Coal Tar Black Paint (Reaffirmed 1991) (1st Revision)</p> <p><b>15.IS:</b> 337-1975 Varnish, Finishing Interior (Reaffirmed 1991) (1st Revision)</p> <p><b>16.IS:</b> 341-1973 Black Japan, Types 'A', 'B' &amp; 'C' (Reaffirmed 1991) (1st Revision)</p> <p><b>17.IS:</b> 345-1952 Wood Filter, Transparent - Liquid (withdrawn)</p> <p><b>18.IS:</b> 347-1975 Varnish, Shellac for General Purposes (Reaffirmed 1991) (1st Revision)</p> <p><b>19.IS:</b> 348-1968 French Polish (Reaffirmed 1991) (1st Revision)</p> <p><b>20.IS:</b> 419-1967 Putty for Use on Window Frames (Reaffirmed 1992) (1st Revision)</p> <p><b>21.IS:</b> 427-1965 Distemper, Dry Colour as Required (Reaffirmed 1993) (Revised)</p> <p><b>22.IS:</b> 428-2000 Distemper, Oil Emulsion, Colour as Required (Reaffirmed 1993) (1stRevision)</p> <p><b>23.IS:</b> 524-1983 Varnish, Finishing, Exterior, Synthetic Air Drying (Reaffirmed 1990) (2ndEdition)</p> <p><b>24.IS:</b> 533-1973 Gum Spirit of Turpentine (Oil of Turpentine) (Reaffirmed 1990) (1<sup>st</sup> Revision)</p> <p><b>25.IS:</b> 712-1984 Specification for Building Limes (Reaffirmed 1991) (3rd Revision)</p> <p><b>26.IS:</b> 1200-1976</p> <p>(Part: XII) Method of Measurements of Building and Civil Engineering Works:</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			Part: XII-Plastering and Pointing (Reaffirmed 1992) (3rd Revision)  27.IS:1200-1987 Method of Measurements of Building and Civil Engineering Works:	
8	Cement		1.43 Grade OPC – IS8112  2.53 Grade OPC-IS 1269  3. Portland Pozzolana Cement (PPC)-IS 1489  4.Rapid Harding Portland cement – IS 4032  5.Port land slag cement (PSC) IS 455  6.Sulphate RC (SRC) –IS 12330  (OPC/ PPC/ PSC shall be used as per the approved design)	
9	Fine aggregates	CPWD specifications sub head 5.0	IS 383, 2386	
10	Coarse aggregates	CPWD specifications sub head 5.0	IS 383, 2386	
11	Mortars	CPWD specifications sub head 3.0	IS 3025,4031, 269,455,1269	

SI No	Item description	Specification reference	IS Ref:	Remarks
12	Water supply and Sanitary works	CPWD specifications sub head 18 and 17	<b>Water supply</b> <b>1</b> IS 554 Pipe threads where pressure tight joints are required on the threads- Dimensions, tolerances and designation. <b>2</b> IS 778 Specification for copper alloy gate, and check valves for water works purposes <b>3</b> IS 779 Water meters (domestic type) - Specification <b>4</b> IS 780 Specification for sluice valves for water works purposes (50 to 300 mm size) <b>5</b> IS 781 Specification for cast copper alloy screw down bib taps and stop valves for water services <b>6</b> IS 782 Specification for caulking lead <b>7</b> IS 1239 (Part 1) Steel tubes tubular and other wrought steel fittings, Part 1- Steel tubes- Specification <b>8</b> IS 1239 (Part 2) Specification for mild steel tubes tubular and other wrought steel fittings, Part 2- Mild steel tubular and other wrought steel pipe fittings <b>9</b> IS 1538 Cast iron fittings for pressure pipes for water, gas and sewage - Specification <b>10</b> IS 1703 Water fittings - copper alloy float valves (horizontal plunger type) - Specification <b>11</b> IS 2692 Ferrules for water services- Specification	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>12</b> IS 3950 Specification for surface boxes for sluice valves</p> <p><b>13</b> IS 4736 Specification for Hot-dip Zinc Coatings on mild steel tubes</p> <p><b>14</b> IS 5312 (Part 1) Swing type reflex (non return) valves for water works purposes Part 1-Single door pattern</p> <p><b>15</b> IS 5312 (Part 2) Swing type reflex (non return) valves for water works purposes Part 2- Multi door pattern</p> <p><b>16</b> IS 5382 Rubber sealing rings for gas mains, water mains and sewers</p> <p><b>17</b> IS 9762 Specification for polyethylene floats (spherical) for float valves</p> <p><b>18</b> IS 9763 Plastic Bib taps and stop valves (rising spindle) for cold water services specifications</p> <p><b>19.</b>IS 15450 PE-AL-PE Pipes for hot and cold water supplies Specifications</p> <p><b>20.</b> IS 15778 Chlorinated Polyvinyl Chloride (CPVC) pipes for potable hot and cold water distribution supplies-specifications</p> <p><b>21.</b> IS 15801 Polypropylene- Random Copolymer Pipes for hot and cold water supplies Specifications</p> <p><b>Sanitary</b></p> <p><b>1.</b> IS 771 (Pt.1) Specification for glazed fire clay sanitary appliances: Part 1: General requirements.</p> <p><b>2.</b> IS 771 (Pt.-2) Specification for glazed fire clay sanitary appliances: Part 2: Specific requirements of kitchen and laboratory sink.</p>	



SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>3.</b> IS 772 Specific action for general requirements for enameled cast iron sanitary appliances</p> <p><b>4.</b> IS 774 Flushing cisterns for water closets and urinals (Other than plastic cistern)-Specifications.</p> <p><b>5.</b> IS 1300 Phenolic moulding materials. - Specifications</p> <p><b>6.</b> IS 1703 Water fittings- copper alloy float valves (horizontal plunger type) - Specification.</p> <p><b>7.</b> IS 1795 Specification for pillar taps for water supply purposes</p> <p><b>8.</b> IS 2267 Polystyrene moulding and extrusion materials - Specifications</p> <p><b>9.</b> IS 2326 Specification for Automatic Flushing Cisterns for Urinals (Other than plastic cisterns)</p> <p><b>10.</b> IS 2548 (Part-1) Plastic seats and covers for water closets Part 1: Thermo set seats and covers Specifications</p> <p><b>11.</b> IS 2548 (Part-2) Plastic seats and covers for water closets Part 2: Thermoplastic seats and covers.- Specifications</p> <p><b>12.</b> IS 2556 Vitreous sanitary appliances (vitreous China) Specifications</p> <p><b>13.</b> IS 2556 (Part-1) Part-1: General requirements.</p> <p><b>14.</b> IS 2556 (Part-2) Part-2: Specific requirements of wash-down water closets.</p> <p><b>15.</b> IS 2556 (Part-3) Part-3: Specific squatting pans.</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>16.</b> IS 2556 (Part-4) Part-4: Specific requirements of wash basins.</p> <p><b>17.</b> IS 2556 (Part-5) Part-5: Specific requirements of laboratory sinks.</p> <p><b>18.</b> IS 2556 (Part-6) Part-6: Specific requirements of Urinals &amp; Partition plates</p> <p><b>19.</b> IS 2556 (Part-7) Part-7: Specific requirements of accessories for sanitary appliances</p> <p><b>20.</b> IS 2556 (Part -14) Part-14: Specific requirements of integrated squatting pans.</p> <p><b>21.</b> IS 2556 (Part -15) Part-15: Specific requirements of universal water closets.</p> <p><b>22.</b> IS 2963 Specification for Copper alloy waste fittings for wash basins and sinks.</p> <p><b>23.</b> IS 3389 Urea formaldehyde moulding materials. - Specifications</p> <p><b>24.</b> IS 3989 Specification for centrifugally cast (spun) iron spigot and socket soil, waste and ventilating pipes fittings and accessories.</p> <p><b>25.</b> IS 4827 Specification for electroplated coating of nickel and chromium on copper and copper alloys.</p> <p><b>26.</b> IS 4984 Specification for high density polyethylene pipes for potable water supplies.</p> <p><b>27.</b> IS 4985 Unplasticised P.V.C. pipes for potable water supply – Specifications.</p>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p><b>28</b> IS 7231 Plastic flushing cisterns for water closets and urinals – Specifications.</p> <p><b>.29.</b>IS 13983 Stainless steel sinks for domestic purposes –Specifications.</p>	
13	Walkway		IRC 103/2012	
14	Diaphragm Wall		IS 9556-1980 or latest	
15	IS Codes for Electrical		<ol style="list-style-type: none"> <li>1. IS:732 (1989) - Code of Practice for Electrical Wiring Installation</li> <li>2. IS:3043 (1987)- Code of practice for Earthing.</li> <li>3. IS:3070 (1993)-Lightning arrester for Alternating Current System.</li> <li>4. IS:900-Installation and maintenance of Induction motors.</li> <li>5. IS:1271-Classification of insulating materials for electrical machinery.</li> <li>6. IS:1646-Fire safety of buildings (general) electrical installation.</li> <li>7. IS:1886-Installation and maintenance of Transformers.</li> </ol>	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			8. IS:1913-General and safety requirements of electric lighting fitting 9. IS:2032-Graphical symbols related to electrical technology. 10. IS:2274-Electrical wiring installations where system voltage is more than 658 volts. 11. IS:3034-Fire safety of industrial buildings (Electrical generation and distribution stations). 12. IS:3072 (part-1)-Installation and maintenance of switchgear where system voltage is less than 1000 volts. 13. IS:3646-Practice for interior illumination. 14. IS:3716-Guide for insulation coordination. 15. IS:3842-Guide for electrical relays for AC system. 16. IS:4004-Guide for lightening arrestors (non-linear) for AC system. 17. IS:4146-Guide for voltage transformers. 18. IS:4201-Guide for current transformers. 19. IS:5571-Selection of electrical equipment in hazardous area. 20. IS:5572-Types of hazardous areas for electrical installations. 21. IS:5780-Intrinsically safe electrical apparatus and circuit. 22. IS:5908-Measurement of electrical installations in buildings. 23. IS:375-Making and arrangement for switchgear bus-bars, main connections and auxiliary winding.	

SI No	Item description	Specificati on reference	IS Ref:	Remarks
			<p>24. IS:694(part-1)-PVC insulating cables with copper conductors (where voltage is up to 100 V).</p> <p>25. IS:1248-Direct acting electrical indicating instruments.</p> <p>26. IS:2147-Degrees of protections for enclosures for switchgear and control gear (low voltage).</p> <p>27. IS:2208-Guide for HRC fuse (up to 650v).</p> <p>28. IS:3202-Guide for climate proofing of electrical equipment.</p> <p>29. IS:3231-Guide for electrical relays of power system protection.</p> <p>30. IS:4047-Guide for heavy duty air brake switches and fuses for voltage less than 1000V</p> <p>31. IS:4237-Requirements for switchgears and control gears for voltage up to 1000V IS:5987- Selection of switches where voltage is up to 1000V</p> <p>32. IS:335-Insulating oil for transformers and switch gear IS:2516(part-1, sec-2)-AC circuit breakers (Tests for the voltage range 1000V to 11000V)</p> <p>33. IS:3427-Metal enclosed switch gear and control gear for voltage within 1000V to 11000V</p> <p>34. IS:722-AC electricity meters for 415 volts</p> <p>35. IS:1951-PVC sleeving for electrical works</p> <p>36. IS:2516 (part-1 sec-1 &amp; part-2 sec2)- AC circuit breaker (Tests for voltage within 1000v)</p> <p>37. IS:2419-Guide for dimension of electrical indicating instruments</p>	

## **1.2 SCOPE OF WORK**

### **Development of Kovalam and Adjacent Beach.**

The design process for developing Kovalam and adjacent beaches should be carried out in a manner such that the basic sustainability principles of Social, Environmental and Economic aspects can be maintained in a well-balanced manner. This includes adopting a comprehensive approach that safeguards the area's natural environment, honours its cultural and historical heritage, and minimizes the negative impact of tourism on the community, all with the aim of creating a thriving and responsible tourist destination for future generations.

#### **1. Environmental Sustainability:**

To ensure environmental sustainability, development activities should minimize harmful impacts to the environment and provide environmental benefits.

- Minimize impact on the ecosystem
- Reduce pollution and waste generation
- Conserve biodiversity and preserve natural habitats
- Promote the sustainable use of natural resources
- Minimizing disturbances to existing geological features and natural drains
- Optimize Water and Energy use
- Use renewable energy sources as far as possible
- Ensure Recyclability of the materials used in construction

#### **2. Economic Sustainability:**

The development should create efficient and socially inclusive systems.

- Create more employment opportunities for local communities
- Help to improve their standard of living
- Promote local artist, art forms and artisans
- Promote local cuisines and businesses
- Create cost effective designs

#### **3. Social Sustainability:**

The Project must make sure that every component is inclusive and accessible to all members of the society.

- Ensure the stakeholders involvement
- Give opportunities for the voices of local communities in decision making
- Respect and protect cultural diversity, heritage and identity of local communities
- Incorporate design elements that reflect local heritage, culture, architectural style
- Utilize the indigenous knowledge in protecting the nature

- Proposed designs and concept must be aesthetically appealing and should seamlessly merge with the surroundings with the area
  - Ensure safety of workers and external persons especially the tourists, visitors, etc
  - Minimization of hindrance to neighbouring stakeholders
  - Provides Thermal comfort
  - Ensures security
4. IS code: All the relevant IS standards shall be applicable as per the design requirement

### **1.2.1 PROJECT COMPONENTS**

A comprehensive masterplan is prepared for the Project area, which shows the initial phase of the Kovalam Beachfront Development Master Plan, presenting an array of interconnected conceptual proposals for infrastructural development to be executed across the entire Project area.

The broad components of the project including associated Mechanical Electrical and Plumbing (MEP) services are:

1. Development of Silent Valley Sun Bath Park
2. Development of Beachside Infrastructure for Hawa and Adimalathura Beach.
3. Development of Corporation Land
4. Development of Edakkal Rock Bridge
5. Development of Beachside Infrastructure for Lighthouse Beach.
6. Study of tides & tidal currents and Design and Execution/Construction of Geotube based off-shore coastal protection measures for Lighthouse Beach.
7. O&M of the facilities for a period of Fifteen (15) years.

The Contractor/Selected Bidder shall start the work mentioned components 1,2,3 & 4 and tidal study for Lighthouse Beach immediately after signing the agreement and time the Construction of component 5 & 6 accordingly, so as to complete the entire work within period mentioned in the RFP document.

The Contractor shall ensure beach formation and restoration of the Lighthouse Beach area by adopting the off-shore Geotube based protection measure only.

### **1.2.2 PROJECT COMPONENT DETAILS**

#### **1.2.2.1 DEVELOPMENT OF SILENT VALLEY SUN BATH PARK**

Silent Valley Sun Bath Park, is located along the gorgeous sands of Kovalam Beach and serves as a stunning example of how regal heritage and coastal tranquillity can coexist. A restaurant and a bathhouse with a royal history are two ancient facilities that will be beautifully preserved as part of this charming Project, amidst/surrounded by lush green landscaping. Silent Valley Sun Bath Park invites visitors to immerse themselves in a harmonic fusion of history, natural beauty, and tranquillity. It offers a unique experience where the magnificence of the past and the attraction of the present come together.

The renovation of Silent Valley Sun Bath Park is to preserve the heritage value it holds. The renovation of the park will exhibit a heritage appearance to the existing structure incorporating it with landscaping, hardscaping and electrification works. Without affecting the existing architecture and integrating some new elements, blending the complete structure with traditional aspect. The approach is to minimize demolition and keeping the vegetation intact.

The existing structure is to be developed to an Art Café, kitchen block at the ground floor and a library room on the first floor. An Open-air theatre for entertainment purposes and security cabins for security and controlling aspects are to be provided. All the developments shall be taking into account the salient, ambience of the area.”

#### **1.2.2.1.1 Design Considerations:**

- **Site investigation and Integration:** To comprehend the local environment, biodiversity, and natural features, conduct a complete site investigation. Create the Project with an eye on protecting natural elements and causing the least amount of impact to the surrounding area.
- **Adaptive Reuse of Existing Structures:** Explore possibilities for adaptive reuse of the restaurant and bathhouse structures for new uses, such as converting the restaurant into an eco-friendly Art Café and a library.
- **Inclusivity and Accessibility:** Make sure that all repurposed spaces are accessible to individuals with a range of abilities by installing ramps in existing structures and ensuring that there are no barriers to entry.
- **Biodiversity Enhancement:** Enhance local biodiversity by combining new natural elements with existing maintained areas to produce a diversified and biologically rich habitat.
- **Reuse of Materials:** Reduce waste and advance a circular economy by salvaging and reusing materials from refurbished or demolished buildings for filling alone or as approved by the Employer’s Representative.
- **Material selection:** The following points should be considered for the material selection for the retrofitting works;
  - a. Use eco-friendly and low-maintenance materials to minimize long-term environmental impact.
  - b. Choose materials with high resistance to salinity and corrosion for coastal durability.
  - c. Use renewable energy sources for lighting and power requirements.
  - d. Incorporate water-efficient landscaping and irrigation systems.



- e. Utilize native and salt-tolerant plants for landscaping to thrive in coastal conditions.
- **Remodelling and Heritage Adaptation:** Adopt Thiruvananthapuram's architectural heritage by remodelling current buildings to reflect the area's distinctive character. To portray the historical grandeur of the city, preserve and restore important architectural components including elegant pillars, balustrades, and conventional roof patterns.
- **Water conservation:** Adopt water conservation as part of the design and use fixtures that consume less water.
- **Energy Efficiency:** Energy efficient electrical fixtures should be used to retrofit the existing energy usage. Marine grade fixtures should be used for better endurance of fixtures.



**Visualisation of existing features at Silent Valley Sun Bath Park**

#### **1.2.2.1.2 Elements of component:**

##### **A. Revamped Landscape with Inclusive Accessibility:**

Make certain that the landscape is updated using inclusive design principles, including ramps and universally accessible walkways to facilitate simple movement for guests of all types. Unwanted structure in the yard should be demolished.

- Provision for access to all facilities for the differently abled
- Proper drainage facility for the land and collection of storm water
- Proper connectivity to adjacent Government guest house with proper, sustainable landscaping upto the Government Guest House

##### **B. Art Cafe and Library in Retrofitted Restaurant Building:**

- Convert the current Ground Floor of the restaurant structure into an art cafe that extends into the surrounding area and the first floor to a library. Structural

elements are changed in connection with matching the thematic representation of art café, such as columns, roofs etc are made with stone masonry on columns, wooden finishes in ceiling, mangalore pattern tile with ceiling tiles etc.

- To achieve a captivating and historic appearance, swap the metal sheet roofing for Mangalore pattern roofing tiles, harmonizing with the distinctive architectural charm including painting and other MEP renovation.
- Redesign parapet walls to enhance the old building's appeal by matching its architectural style.

#### **C. Renovated Lower Level with Natural Stone Paving and landscaping:**

- Renovate the portion of the plot that is lower and is located above the freshwater pond.
- Create a natural and aesthetically pleasing design by paving with natural stones.
- Add some vegetation to the space to improve the ambience and provide visitors a peaceful getaway.
- Renovate the pond house to suit with the Architectural character and regain its Architectural Glory
- Fencing of the entire property.
- Landscaping with the provision for sitting and relaxing for reading.

#### **D. Waste collection and treatment facilities**

- **Source Segregation:** Categorize waste (biodegradable, non-biodegradable, recyclable, hazardous).
- **Strategic Collection:** Establish accessible collection points.
- **Green Kerala Protocol:** Adhere to eco-friendly disposal standards.

#### **E. CCTV Facilities**

- **Optimal Camera Placement:** Determine key areas along the route that offer thorough coverage while respecting privacy.
- **Advanced Imaging and Night Vision:** For efficient day and nighttime surveillance, choose cameras with high resolution, 360-degree visibility, PTZ (Pan, Tilt, Zoom) capabilities, and infrared (IR) technology.
- **Weather Resistance:** To survive coastal conditions, choose vandal- and weatherproof camera enclosures.
- **Privacy Measures:** Protect sensitive regions from surveillance by implementing privacy masking.
- **Archive Period:** Minimum 6 months.

## F. General Provisions

- Adequate power back up through DG sets
- Proper Signages and Information Boards
- Adequate Drinking Water Kiosks
- Adequate Public Toilets

### 1.2.2.1.3 Area Details:

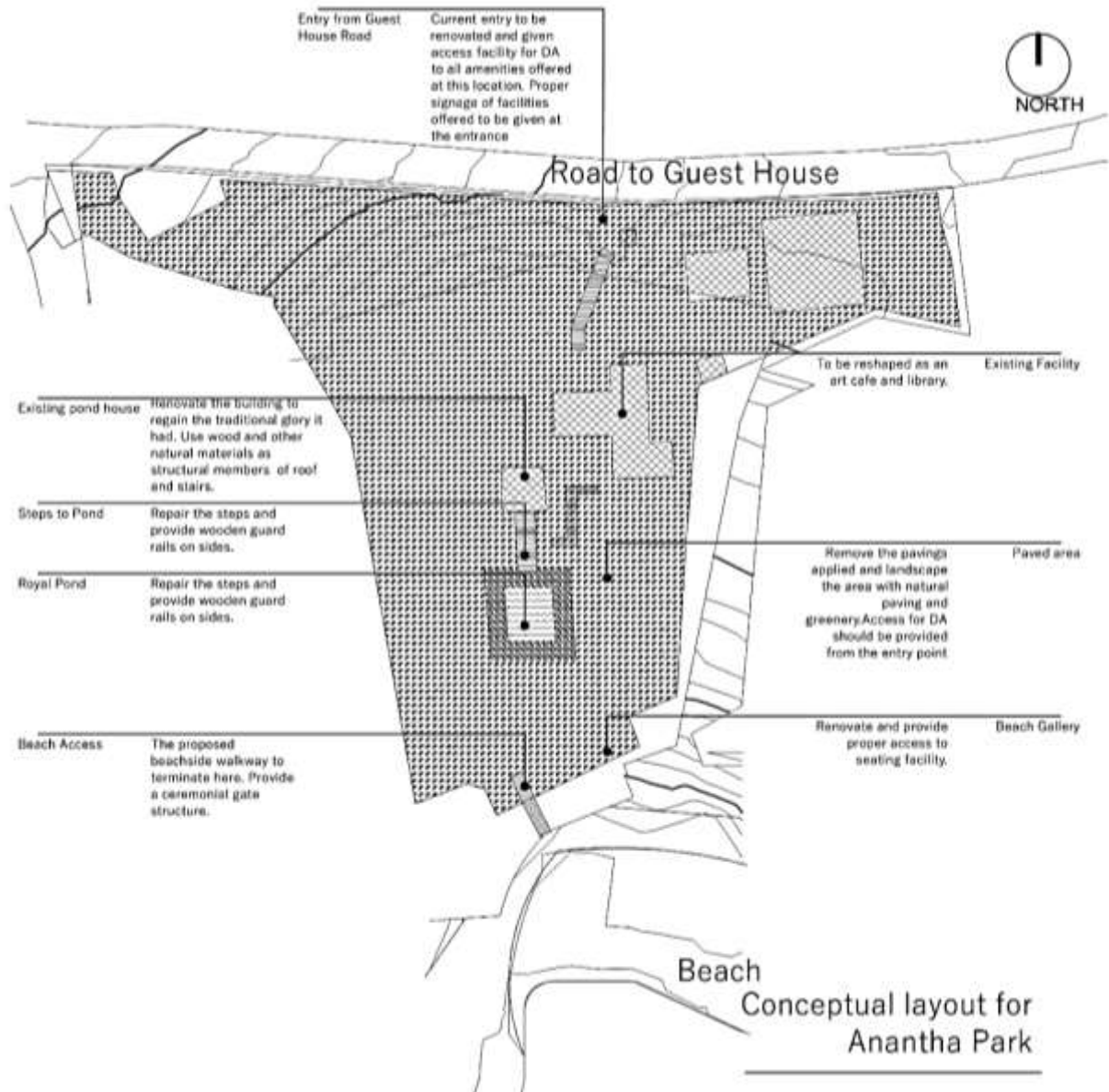
Sl no	Description	Area In Sq. M
1	Land area	7825.43
2	<b>Restaurant Building</b>	-
2.a	Ground Floor	58.00
2.b	First Floor	181.63
	Total	239.63
3	<b>Pond House</b>	
3.a	Ground Floor	27.40
3.b	First Floor	27.40
	Total	54.80
4	<b>Toilet Block</b>	35.93
	<b>Total Built Area</b>	<b>330.36</b>

### 1.2.2.1.4 Material list

Purpose	Recommended Material	Remarks
Pathways and Walkways	Natural Stone Pavers	Durable and aesthetically pleasing option for walkways.
Seating and Furniture	Natural Stone Seating	Timeless and durable option for seating elements.
Structural Elements	Stainless Steel 316/ Structural NPB	Corrosion-resistant metal for long-lasting structures.
	Reinforced Concrete	Durable material for foundations and columns.
	Marine Grade Epoxy Coated GI Hollow Sections	Corrosion-resistant material for structural elements in coastal areas.
Roofing	Mangalore Pattern Roofing Tile	Traditional roofing tile with salt-resistant properties.
Planters and Landscaping	Native Plants	Salt-tolerant species for landscaping and conservation.

Lighting Fixtures	LED Fixtures	Energy-efficient lighting to minimize energy consumption.
	LED Lights Fixtures	Sustainable option using renewable energy.
Renovation and Retrofit	Low-VOC Paints	Environmentally friendly paints for building renovation.
Metal Surface Finishes	Marine grade epoxy	Durable and corrosion-resistant surface finish.
Toilet Fixtures	Water-Saving Dual Flush Toilets	Water-efficient fixtures for sustainable water use.
	Wall hung WCs	-
	Concealed Flush tank	-
	Push cock Flushing for Urinal	-
Wall Cladding	Laterite Tile Cladding	Durable and weather-resistant material for wall cladding.
	Natural Stone Cladding	Durable and aesthetically pleasing material for wall cladding.
	Terracotta Tiles	Moisture-resistant material for wall cladding.

#### 1.2.2.1.5 Conceptual Layout



### 1.2.2.2 DEVELOPMENT OF BEACHSIDE INFRASTRUCTURE (HAWA, LIGHT HOUSE BEACH & ADIMALATHURA BEACH)

The existing walkway at Light house beach which is till the main entry to the beach shall be renovated and continued to link the Silent Valley Sun bath Park (Silent Valley Sun Bath Park) with a newly developed walkway. The beach side of the walkway needs to be protected from erosion due to the tidal forces, and a robust diaphragm wall shall be constructed along with tetrapods/ boulders or other best engineering practices as per requirement.

#### 1.2.2.2.1 Design Considerations:

- **Accessibility and Inclusivity:** The walkway should be accessible to all, including people with disabilities and the elderly. Proper slopes, detailing and materials should be used to achieve this. The CPWD guidelines for differently abled should be followed while designing the walkway.
- **Materials and Surfacing:** Use eco-friendly and non-slip materials suitable for the coastal climate and heavy foot traffic. Finish of the walkway top surface should be with natural stone or sustainable composite materials.
- Tactile flooring should be applied as per the Guidelines of CPWD.
- **Scenic Viewpoints:** Incorporate scenic viewpoints along the walkway for visitors to enjoy the beach and sea views.
- **Resting points:** Intermediate resting points with proper shading facilities should be provided incorporating seating, drinking water fountains and landscaping.
- **Landscaping and Green Spaces:** Integrate native plants and green spaces to enhance the aesthetic appeal and provide shade.
- **Lighting:** Prioritize the use of energy-efficient lighting fixtures to ensure safety during evening and night hours. For areas anticipating high footfall and gatherings, consider installing high mast or mini mast lights. In other sections, opt for lighting poles and fixtures designed to withstand corrosion, especially in the saline atmosphere, using materials such as natural stone or other suitable alternatives.
- **Interactive Signage:** Include informative and interactive signage along the walkway to educate visitors about the local ecosystem, wildlife, and cultural significance of the area.

- **Safety Measures:** Implement designated crossing points and warning signs for pedestrian safety.
- **Environmental Education:** Integrate elements of environmental education into the design.
- **Integration with Local Businesses:** Allow integration with local businesses to support the community.
- **Community Engagement:** Involve the local community in the design process.
- **Service lines:** Ensure proper provision of underground ducting beneath the walkway to accommodate cabling and other essential service lines. This will help maintain a tidy and organized appearance while ensuring efficient utility distribution.

#### 1.2.2.2.2 Basic Details

S no	Description	Hawa Beach	Light House Beach
1	Length in Meters	500	1000
2	Minimum Width of the walkway in Meters	3.5	3.5

The clear width of the proposed walkway should be 3.5m minimum and existing width of walkways shall be maintained. In case more width is required, the paving width should be increased and other facilities like gazebos, pergolas, rain shelters, kiosks and landscaping should be incorporated. Wherever the walkway takes a turning, the width should be increased to meet the turning radius of an ambulance. The level difference in the walkway should be dealt in such a way that it should follow the general KMB Rules for ramps for the disabled.

Components such as seating benches, light poles, drain spouts, bollards, stairs, stone pillars, spotlights, pergola, etc., are to be provided along the walkway as part of the beautification work. A unique identity of Trivandrum royal heritage is to be incorporated while designing all the components installed in the region.

#### 1.2.2.2.3 Elements of component:

##### A. Study for Coastal Protection

Detailed study on the tidal force should be carried out for offshore and shoreline protection intended to hold back soil, give protection from the attack of waves, to and give the pathway and the shore stability, especially in places with variable ground conditions.

The measures to be considered for the offshore protection must be prepared after conducting the following studies such as

- **Tidal analysis**
- **Sediment and underwater topography analysis**
- **Wave analysis**
- **Storm surge analysis**
- **Shoreline change analysis**
- **Geological Survey**
- **Stakeholder engagement**
- **Any other studies/ analysis required as per the Project requirement**

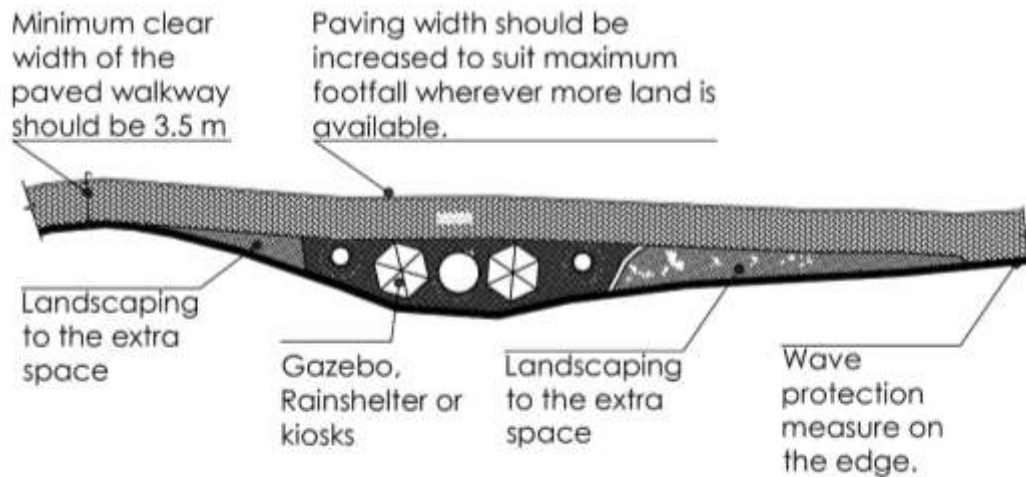
The results of the investigations should lead to the Design and Execution/Construction of Geotube based off-shore coastal protection measures for Lighthouse Beach.

For any additional depth/height of any individual diaphragm wall unit (including underground & over ground) over and above 6(six) meters, which is considered for estimation, will be eligible for additional payment as per actual, over and above the Contract Price as per the Sub-Clause 13.3.1 [Variation by Instruction] of the PCC. The Bidder shall make its own assessment for determining the depth of diaphragm wall underground on the basis of site conditions and soil investigation and shall submit a detailed design along with necessary technical documents. The payment for additional work/quantity shall be determined on the basis of applicable/extant Schedules of Rates of Government of Kerala.

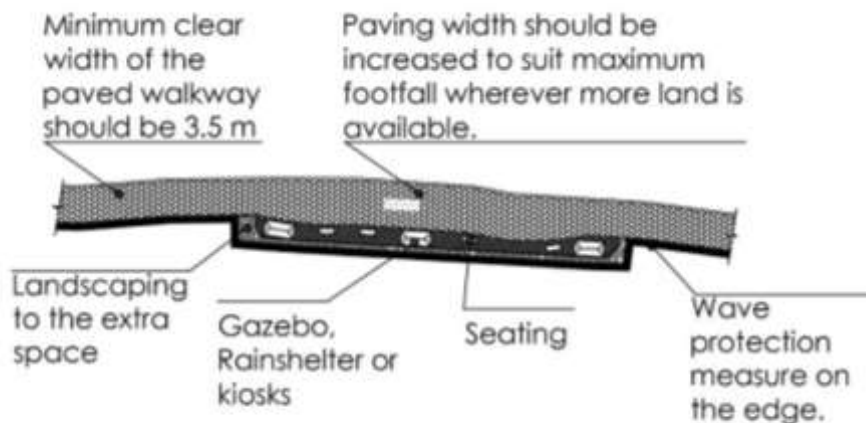
## **B. Walkway**

The walkway along with closed storm water drain is a key element of the Project, serving as a pedestrian pathway running along the beachside of Kovalam's Light House Beach till the Silent Valley Sun Bath Park (Silent Valley Sun Bath Park). Its primary objective is to provide a safe, accessible, and well-defined route for visitors to traverse the beachfront. The walkway's width should be thoughtfully designed to support the expected level of foot traffic while providing enough room for guests to walk comfortably, sit on benches, or stop to watch the scenery. The layout should take local topography into account, causing the least amount of damage to the ecosystem possible. Width of the walkway should be 3.5m minimum as the clear walking way, with service ducts running below and the safety barriers and the street light poles on the sides. The walk way should be designed keeping inclusivity in mind and to the maximum extent ramps should be provided instead of steps to facilitate for the wheelchair movement. Steps and ramps extending from the walkways to the beach should be provided for the visitors to access the beach. Drinking water kiosk should also be provided along the walkway as per the requirement. Walkway must be designed in such a way so that it does not submerge in sea water at any point of time.





Conceptual representation of walkway and gathering spaces



Conceptual representation of walkway and gathering spaces

### C. Raised walkway

An elevated walkway approx. 150m from Silent Valley Sun Bath Park to Hawa beach end point shall be provided. This walkway should be designed to preserve the unique rock formations along the stretch and provide a seamless flow for visitors. To maintain the natural ambiance, the walkway will be constructed on stilts and platforms, with viewing decks incorporated. The design of the raised walkway will be carefully integrated with the overall Project concept, ensuring it merges harmoniously with the surrounding natural settings. This addition aims to enhance the visitor experience while preserving the geological features of the area. Walkway must be designed in such a way so that it does not submerge in sea water at any point of time. A Sky deck/ viewing gallery shall be provided over the rock near the Silent Valley Sun Bath Park.

### D. Off-Shore Protection

On the basis of tidal study Geotubes shall be installed in lighthouse beach for off-shore protection of the beach. The Geotubes shall be designed to specific dimensions, considering the local hydrodynamic conditions, wave climate and

other necessary factors required for designing the Geotube. The tube dimensions shall be specified on the basis of engineering calculation. The material used for Geotubes shall be made of high strength woven geotextile material designed to withstand the marine environment, Ultra Violet radiation and Geotube material should meet the required tensile strength, puncture strength, permeability and other specifications. The filler material used for filling the Geotubes shall be suitable dredged material or sand as per the relevant standards.

Geo tube units with 2 layers of 15 m circumference and 20 m length across the length of the Light house beach is considered for estimation. Any variation necessitated as result of the study, duly approved by the Authority's Engineer, will be eligible for additional payment as per actual, over and above the Contract Price." as per the Sub-Clause 13.3.1 [Variation by Instruction] of the PCC.

#### **E. Pergolas**

Aesthetically appealing Pergolas should be strategically placed along the walkway at regular intervals, say 6 m length at an interval of 300 m, for visitors to take shelter from the sun and rain, enjoy scenic views and rest during their beachfront experience.

#### **F. Kiosks**

The Kiosks should be lively and welcoming that promote and sell regional food and handicrafts, giving tourists a chance to sample real Kerala cuisine and bring home one-of-a-kind keepsakes. Sustainable and durable materials should be used for the construction of Kiosk and must be placed strategically along the beach. Further, provision for standalone drinking water Kiosks must be provided at regular intervals along the entire beach.

#### **G. Safety Barriers**

Install strong, durable safety barriers along the walkway to stop unintentional falls and guarantee the safety of the public. In order to protect the pathway from any dangers, the barriers should be built to resist coastal conditions. Additionally, take into account adding aesthetically beautiful components to improve the barriers' appeal while preserving their primary purpose of assuring visitor safety. The Kiosk should have a minimum dimension 2 X 1.5 m.

#### **H. Seating Benches**

Include inviting and well-designed seating places along the walkway to provide visitors a spot to relax and take in the beach's picturesque views. To withstand the harsh conditions of the coastal area, the seats should be built from sturdy materials like weather-resistant wood, stone or metal. For enhanced comfort, think about including backrests and ergonomic designs. The seating areas should be improved with planting and shading features, resulting in warm spaces for unwinding and mingling with others.

#### **I. Street Lighting**

To maintain safety and improve the ambiance during evening and night hours, install energy efficient solar powered and effective lighting options along the route. Because of their low energy usage and long lifespan, LED lighting fixtures are advised. To illuminate the route evenly and reduce light pollution, employing bollard lights, low-glare pathway lights, and strategically positioned overhead lighting can be used. Warm and delicate lighting may be used to create a friendly and welcoming ambiance at picturesque vistas and pavilions. The lighting layout should be well thought out to draw attention to important pathway elements like seating places and cultural displays while also giving beachgoers who stay on the beachfront after dark a sense of security. Only anti-corrosive and water proof lights should be used. The street lighting facility must be equipped with provision for power back up.

#### **J. Drainage Facilities**

The drainage network must be strong and in tune with the natural drainage patterns coming from the landward side in order to guarantee uninterrupted pathway usage during bad weather. The following crucial clauses must be included:

- **Effective Surface Drainage:** Incorporate a network of grated or perforated surface drains along the walkway for effective surface drainage. Surface runoff should be well managed by these drains and directed away from the walkway.
- **Cross-Drainage Integration:** Carefully incorporate cross-drainage structures into the walkway's design to permit the free flow of water from the surroundings. To avoid causing ecological problems, keep the current natural drainage system in place.
- **Efficient Underground Conduits:** Install stormwater drains below the ground to quickly direct rainwater away from the walkway area. The channels should transfer water to appropriate exits without conflicting with the dynamics of natural drainage.

#### **K. Pavilions/ Gazebos**

Create beautiful and useful pavilions along the walkway to provide tourists with shelter, relief, and mesmerizing beach views. The pavilions ought to be carefully positioned at key points of intersection, utilizing picturesque settings and offering expansive views of the coastline. Pick materials that blend in with the seaside environment, like natural stone or environmentally friendly composites. Traditional Kerala architectural and aesthetic aspects should be adopted to improve the cultural experience. Inside the pavilions, appropriate seating arrangements, such as benches should be provided. A minimum of three (3) nos. of pavilions at appropriate intervals with minimum seating capacity of 10-15 persons to be provided. Special attention to be given for its access by especially abled person, wheelchair and walker users, toddlers with prams, etc.

#### **L. Landscaping**

Design a captivating and environmentally friendly landscape that highlights the Beach's natural beauty and serves as a calming backdrop for the pathway and pavilions. To

encourage biodiversity and ecological balance, local trees and plants should be picked that flourish in coastal environments. To enhance brightness and aesthetic appeal, mix in attractive grasses, coastal shrubs, and colourful flowering plants. Water-efficient landscaping should be employed to conserve water resources.

**M. Demolition of existing toilet block and converting the land to landscaped area**

The existing toilet block should be demolished to make way for a beautiful and sustainable landscaped area. Before the demolition, proper environmental and safety measures are to be followed.

**N. Ambulance Entry Point- Development of access road to the Southern part of the beach.**

A crucial step towards safeguarding the safety and wellbeing of beachgoers is the establishment of the southern entry of Kovalam Beach as an ambulance entry point. In addition to putting sustainability first and integrating it with the natural beauty of the coastal area, this transformational Project promotes accessibility. The idea seeks to integrate eco-friendly transportation, aesthetic features, and emergency services in a seamless manner, boosting the experience of being near the beach.

- **Better Road Connectivity and Creative Expression:** The road that leads from the Lighthouse gate to the beach will be improved to make it easier for ambulances to enter and exit the area. Existing compound walls and rocks will be used as canvases for local artists to display their creativity through eco-friendly artwork and graffiti in order to improve the entry point's visual appeal. In addition to bringing life to the area, this effort encourages pride in and cultural identity among both tourists and locals.
- The surface of the road should be designed to cater to the vehicle movement and also the total aesthetic appeal of the Project. Existing compound walls and rocks are to be used as canvases for local artists to display their creativity through eco-friendly artwork and graffiti in order to improve the entry point's visual appeal. Sculptures and art installations by local artists should be installed at appropriate places. The road surface should also facilitate for the movement of E- Buggies and SEGs.
- **Re installation of Gandhi Statue and Landscaping.** To cultivate an atmosphere of tranquillity and respect, the renowned Gandhi statue situated at the southern end of Light House Beach should undergo careful restoration. This renovated statue should be thoughtfully installed within a beautifully landscaped setting, adorned with appropriate lighting to accentuate its significance and allure.

#### **O. Royal Gate House entrance at Hawa Beach:**

Create a regal entrance that honours the city of Thiruvananthapuram's extensive architectural legacy.

**Enhancing the Existing Entrance:** Transforming the present entrance of Hawa Beach within the Road/Beach limits into a magnificent gate house building. The existing facilities will undergo extensive improvements, culminating in a grand entrance plaza that exudes regal splendour.

#### **Detailed elements should be:**

- 1) Steps to cater the level difference from the entry point to the beach
- 2) Ramp access for the differently abled as per the Guidelines of CPWD.

#### **Design guidelines:**

- Materials for the steps should be natural stone for the top surface
- Riser and tread should not be less than that specified in KMBR.
- Slope of the ramp should not exceed the provision given in the KMBR and if possible, make the gradient more convenient for the wheelchair movement.
- Additional ramp must be provided for moving hand carts which are widely used to carry luggage and other supplies to various resorts and shops. The design must be done to ensure no skidding or slippage of hand carts, damage due to rough usage or during loading and unloading of the materials.
- Proper handrail using SS 316 or other approved material should be given to both steps and the ramps
- Landscaping and Natural sustainable plants to be added to enhance the aesthetics of the entrance.
- Proper lighting to cater to the large gathering should be given in a way to enhance the grand architectural character intended for the entrance structure

#### **P. Land demarcation at Adimalathura Beach**

The boundary demarcation of Adimalathura Beach by Bio-fencing the boundaries is to be executed as part of the Project. Approximate length of the fencing is 2.00kms and height shall be as per relevant IS standards. Material to be used for Bio-fencing must be sturdy and sustainable keeping in view the coastal environment and wave pressure.

#### **Q. Waste collection and treatment facilities**

- **Source Segregation:** Categorize waste (biodegradable, non-biodegradable, recyclable, hazardous).
- **Strategic Collection:** Establish accessible collection points.
- **Green Kerala Protocol:** Adhere to eco-friendly disposal standards.

#### **R. CCTV Facilities**

- **Optimal Camera Placement:** Determine key areas along the route that offer thorough coverage while respecting privacy.

- **Advanced Imaging and Night Vision:** For efficient day and nighttime surveillance, choose cameras with high resolution, 360-degree visibility, PTZ (Pan, Tilt, and Zoom) capabilities, and infrared (IR) technology.
- **Weather Resistance:** To survive coastal conditions, choose vandal- and weatherproof camera enclosures.
- **Privacy Measures:** Protect sensitive regions from surveillance by implementing privacy masking.
- **Archive Period:** Minimum 6 months.

## S. General Provisions

- Adequate power back up through DG sets
- Proper Signages and Information Boards
- Adequate Drinking Water Kiosks at regular intervals (avg 250m)
- Adequate Public Toilets

### 1.2.2.2.4 Material list

SI No	Application	Material to be used	Remarks
1.	Top surface of the walk way	Natural Stone pavers	Ensure the material is non slippery and convenient for the wheelchair movement
2.	Seating	Natural Stone benches or concrete benches clad with natural stone	Consider vandalism resistance for the seating
3.	Safety barriers, Parapets and handrails	SS 316 (Austenitic stainless steel), Coloured Stainless steel	-
4.	Tactile Ground Surface Indicators (TGSI)	Concrete paving tiles with tactile impression	-
5.	Streetlight poles	Natural stone poles or GRP Poles	-
6.	Streetlight fixtures	Aluminium die cast / cast iron / powder coated sheet steel / SS, coated with higher corrosion resistance paints like marine grade paints (ISO 12944, C5(M) class)	Screws, rivets, nuts and bolts used to fix should be of SS. IP 68 enclosures for electronic parts

7.	Pavilions	Stone pillars, natural stone seating	-
8.	Landscape	Native plant varieties to be identified and used	-

#### 1.2.2.5 Conceptual Layout



**Conceptual Visualisation of Beach Side Walkway**



### **1.2.2.3 DEVELOPMENT OF CORPORATION LAND**

A park that is now unused and belongs to the Municipal Corporation of Thiruvananthapuram has the potential to go through an exciting change amidst the lovely surroundings of Kovalam Beach. With this large-scale Project, the park will be revitalized, with the demolition of aged single-story buildings. This restored property, with its ideal beachfront location, has the potential to become the Gateway to light house and its adjacent beaches and to replace the current access from Hawa Beach as the new primary entry point. The Project seeks to create a lively and friendly environment that provides beachgoers and visitors with a seamless and memorable experience.

The corporation land is proposed to be converted into a vibrant and dynamic place bustling with active social life and entertainment. The proposal for the plot includes an Open-Air Theatre, Administration block, Restroom and amenities centre for male, female and differently-abled, an internal walkway, Open Gym, Play area, etc. Open Air Theatre consisting of a feature wall for the purpose of displaying history as well as cultural aspects are also proposed. Cobble stones and kerb stones and natural stones may be considered for pathways and landscaping.

The frontage of Administration block as well as Restroom and Amenities centre blocks are to be paved with interlocks. Administration block is proposed as a structure having a total built up area of 272 sq.m with ground floor (150 sq.m) and first floor (122 sq.m) which includes a green room and room for beach manager, reception, security guard office, staff room, toilet facilities, first aid room and a mini conference hall on the ground floor. First floor includes Amenities, storage room, electrical panel room, surveillance and security room, security guard rest area and library with lavatories as well as a janitor room. The foundation for the public amenities building may be suitably designed for three storied building considering future vertical expansion. Restroom and amenities centre may have a minimum total built up area of 357 sq.m with ground floor (188sq.m) and first floor (169 sq.m) that includes both gents and ladies toilet sections with separate entrance, easy ramp access for differently-abled, feeding room, etc. The design of buildings should be done as per latest KMBR rules and CPHEEO manual."

#### **1.2.2.3.1 Design Considerations:**

- **Sustainable Site Planning:**
  - a) Planning a sustainable site
  - b) Reduce energy usage by maximizing natural ventilation and lighting on the site
  - c) Ensure that there is little environmental impact while preserving scenic vistas and the coastal landscape.
  - d) Put an emphasis on effective land use to reduce the Project's ecological impact.
- **Adaptability and Future Planning:**

- a) Design the component with adaptability in mind to allow for expansion and future alterations.
- b) Plan for prospective facility relocation to accommodate parking requirements without compromising sustainability.
- **Segregation of Movements:**
  - a) Pathways and signage should be carefully planned to separate general visitors from those using the shower and changing facilities.
  - b) Ensure orderly and efficient foot circulation, providing both groups with privacy and convenience.
- **Changing Rooms, Showers, Feeding room and washrooms:**
  - a) To improve visitor comfort and hygiene, install well-thought-out changing rooms and shower facilities in strategic locations.
  - b) To survive excessive salinity, use partitions, appropriate ventilation, and sturdy materials.
  - c) To give a welcoming ambience for the restroom facility a world class modern restroom facility should be designed.
  - d) Dedicated air-conditioned feeding room to be provided for infants feeding.
- **Selection of Materials for Salinity:**
  - a) To endure the salinity of the coastal environment, use corrosion-resistant materials such as marine-grade stainless steel, aluminium and coated

metals. Reinforcement used in to components shall be galvanised/ epoxy coated at factory only.

- b) For exposed fixtures and structures, use marine-grade epoxy paints or anticorrosive coatings.

- **Water Management:**

- a) Implement water-saving strategies, such as low-flow fixtures and rainwater collection systems, in shower facilities.
- b) Encourage wise water use to lessen the Project's negative effects on the neighbourhood's water supplies.
- c) Encourage water reuse in toilet flushing, gardening, etc.

- **Native Landscaping and Biodiversity:**

- a) To promote biodiversity and ecosystem resilience, incorporate locally adapted and salt-tolerant plant species into the landscape design.
- b) Reduce water demand and increase environmental sustainability by using drought-resistant plants.

- **Accessibility and Inclusivity:**

- a) Design the facilities with universal accessibility to ensure ease of use for all visitors, including differently-abled individuals.
- b) Incorporate features that cater to diverse needs, providing an inclusive and welcoming environment.

- **Cleanliness and Waste Management:**

- a) To maintain the cleanliness of the beach and to protect the environment, effective waste management procedures should be established, including recycling containers and appropriate disposal methods.
- b) Through informative signage, promote appropriate waste disposal among visitors.

- **Energy Efficiency:**

- a) To save energy and advance sustainability, use energy-efficient lighting and fixtures.
- b) Use solar panels and other sustainable energy sources to power your electrical systems and lighting.
- c) To aim towards a net zero energy Project.

- **Cultural Identity and Aesthetics:**

- a) Create a distinct feeling of place by including architectural features that reflect the regional cultural heritage and identity.
- b) Use environmentally friendly paints and finishes on construction Projects to improve aesthetics while putting sustainability first.

#### **1.2.2.3.2 Elements of component:**

**A. Beachfront Plaza:** This integrated plaza offers administrative assistance, restrooms, showers, and attractive eateries, making it an ideal place to relax by the water.

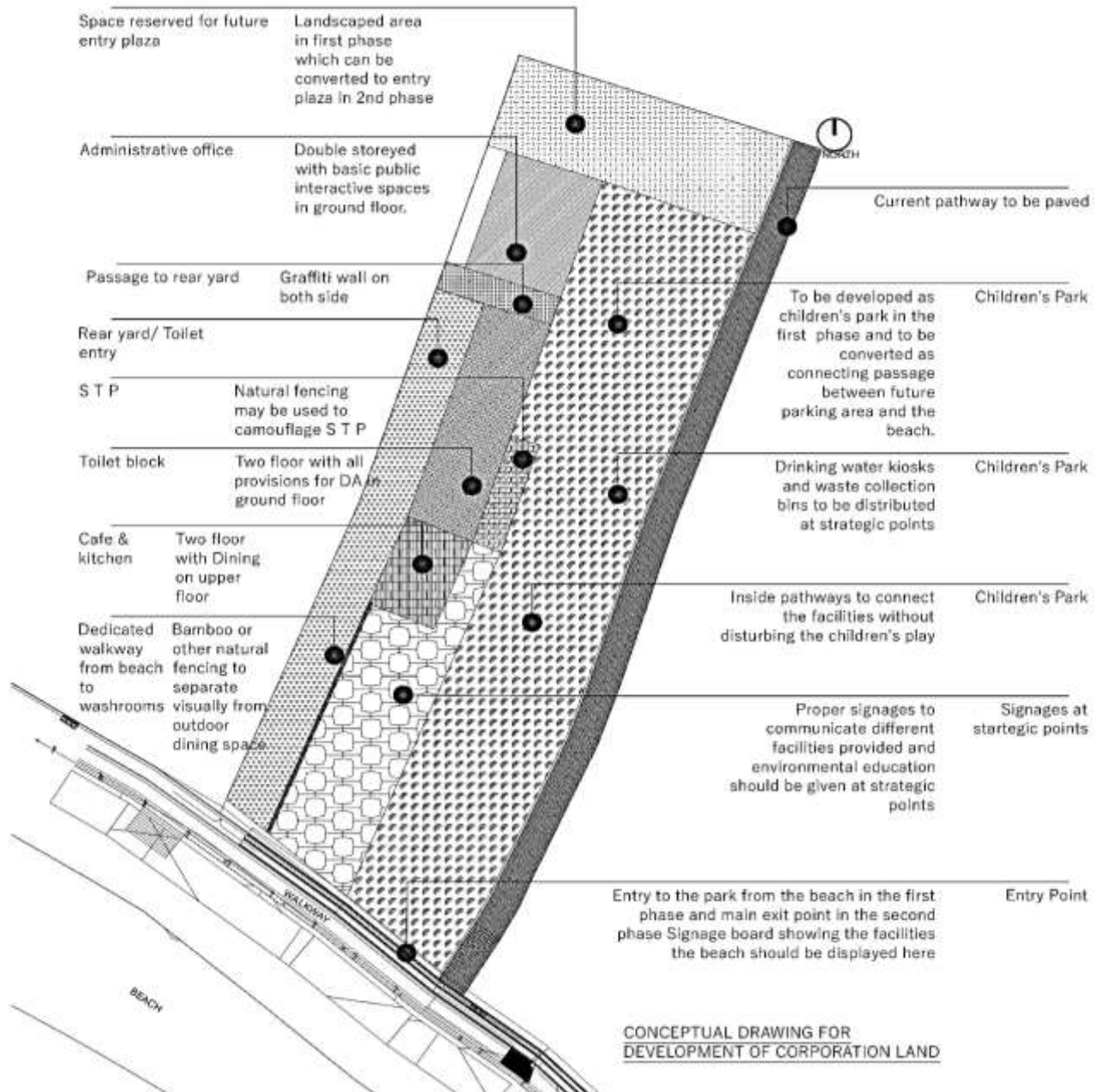
- **Administrative Functions:** A dedicated space to house administrative offices and facilities to manage and oversee the beach area, ensuring smooth operations and visitor services.
- **Restrooms with WC's:** Well-designed restrooms with water closets (WC's) to provide convenient and hygienic toilet facilities for visitors.
- **Locker Facilities:** Locker facilities for visitors to securely store their belongings while enjoying the beach and its amenities.
- **Change Room and Shower Cubicles:** Changing rooms equipped with private shower cubicles, providing beachgoers with a comfortable and private space to freshen up after their beach activities.
- **Toilets for Differently-Abled (DA):** Accessible urinals and toilets to cater to the needs of differently-abled individuals, promoting inclusivity and convenience.
- **Cafe Facing the Beach:** A semi-outdoor cafe offering panoramic views of the beach and the sea, providing visitors with a delightful dining experience by the waterfront.
- **Souvenir Shops:** Shops showcasing local crafts and souvenirs, allowing visitors to take home mementos and support the local economy.
- **Sewerage Treatment Plant (STP) using Appropriate Technology** should be provided for treating Sewage along with kitchen/ restaurant wastewater along with pipeline at suitable location. The quality of the treated water should meet the standards specified by PCB. The liquid discharge should comply with the mandatory requirement of waste water fit for discharge into the Coastal region as per CPCB and KPCB/NGT norms for the site. The design capacity of STP shall be 25KLD as per the final design layout.
- The solid waste collection and disposal shall be clubbed with the existing Govt management scheme and provision for connecting the liquid waste to the proposed STP shall be provided.
- The makes of locker may be selected from (i) Merino (ii) Greenlam (iii) Godrej Interio (iv) Wipro.

#### **B. Power back up**

- Adequate power back up shall be provided through DG sets

### 1.2.2.3.3 Area details of Components (DELETED)

### 1.2.2.3.4 Conceptual Layout



### 1.2.2.4 DEVELOPMENT OF EDAKKAL ROCK BRIDGE

The development at Edakkal near Hawa beach in Kovalam includes a Stone Arch bridge connecting two rock formations and a platform for visitors. The primary focus of this component is to ensure the safety of the visitors. The bridge and platform must be designed to withstand the coastal environment, including strong winds and tidal forces. Non-slip surfaces should be incorporated to prevent accidents in wet conditions. The structure should also have sturdy railings and safety barriers to protect

visitors from falls and ensure a secure and enjoyable experience. The connectivity to the Edakkal rock bridge shall also be developed by using staircase & ramps.

The bridge has to be designed connecting the 2 existing rocks and it has been decided to propose an arch bridge. The material for construction can be concrete providing adequate provisions for durability aspects provided in the design. It has already been clarified that the width will be 3.5m. All other parameters are to be considered as per the Indian Standards and IRC standards.

A boat jetty has to be developed along with necessary access from the foot bridge while ensuring IWTA standards and also provide a launching deck and other necessary infrastructure required to facilitate water sport activities along the side of Edakkal/ Mid-rock.

#### **1.2.2.4.1 Design Considerations**

- **Structural Integrity:** To endure the hostile coastal environment, the bridge and platform must be built with a solid structural base. To provide stability against tidal waves and other natural elements, the foundation should be firmly secured to the rocks.
- **Material Selection:** To ensure the longevity of the bridge and platform, strong, weather-resistant materials should be used in their construction. Materials that can endure the corrosive effects of seawater and the coastal climate include stainless steel, concrete, and composites.
- **Non-slip Surfaces:** The bridge and platform must have non-slip surfaces because of the close proximity to the shore and potential exposure to water. This will lessen the chance of slips and falls, particularly in wet or sticky situations.
- **Handrails and Safety Barriers:** The length of the bridge and platform should have sturdy handrails and safety barriers installed. These security measures will increase the bridge's overall safety by preventing people from unintentionally going down the edges.
- **Accessibility:** The bridge ought to be made accessible to those who have physical limitations or mobility issues. To ensure that everyone can enjoy the experience, this can involve offering ramps or mild slopes.
- **Environmental Impact:** The construction work should be done with as little disruption to the natural environment as possible. During the construction phase, precautions should be taken to protect nearby wildlife, vegetation, and coastal ecosystems.
- **Signs and Safety Information:** To notify visitors about potential risks and safety precautions, appropriate signs and safety information should be strategically placed close to the bridge and platform.

#### **1.2.2.4.2 Elements of component:**

##### **A. RCC Foot Bridge Structure**

The bridge will be the major passageway bridging the two rocky outcrops. Given the challenges of the coastal environment, it ought to be built as a strong and solid construction. The distance between the rocks and the height needed for safe clearance from waves and tides should be carefully taken into account while determining the length, width, and height of the bridge. The materials selected for the bridge must be corrosion-resistant and able to withstand the corrosive effects of saltwater and the coastal environment. The deck surface should be non-slippery. Handrails to provide support and safety to the visitors should be given to complement the aesthetics of the bridge and the surrounding environment. Reinforcement used in to components shall be galvanised/ epoxy coated at factory only.

##### **B. Walkway with Safety Barriers:**

In order to ensure visitor safety, a walkway will be built to connect the platform and the bridge. To adequately support foot traffic, the walkway should be wide enough. To avoid unintentional falls and guarantee the safety of visitors, durable safety barriers should be put in place on both sides of the walkway. The barriers should be crafted to blend in with the aesthetics of the bridge and the surroundings.

##### **C. Platform Structure:**

After people cross the bridge, they can take a break or observe from the platform. The design of the platform should prioritize stability and safety, just like the bridge and walkway. To avoid flooding from waves or tides during times of high water, it should be elevated above the ground. The platform's size should allow for a manageable number of people without compromising security or placing an undue burden on the rocks.

##### **D. Boat Jetty**

For the adventurous activities, a boat jetty should be provided. This should also have a walkway with safety barriers on both sides that connects the platform structure to the boat jetty.

##### **E. Lighting**

Proper lighting should be taken into account for both safety and aesthetics. To assure visibility without contributing to light pollution, low-profile, energy-efficient LED lighting fixtures can be strategically positioned throughout the bridge, walkway, and platform.

##### **F. Signages:**

Install clear and detailed signs at the bridge's and platform's entrances with instructions, safety precautions, and details about the region's geological importance. In order to accommodate visitors with visual impairments, the signs may also include Braille or tactile components.

### **G. Illuminated Billboard Installation**

To increase the Project's exposure and identity, a sizable, illuminating billboard featuring the letters 'I ♥ KOVALAM' is to be incorporated. This billboard should be strategically positioned atop Edakkal Rocks so that it will be seen from all sides of the beach and even from airplanes flying overhead, adding to Kovalam's unique environment.

- Proper Foundation should be done as per the code provisions.
- Corrosion-resistant materials: Go for long-lasting options
- Integration of lighting seamlessly: Combine lighting with the structure
- Provisions and access for regular maintenance should be provided
- Local laws and aviation requirements: Respect licenses and safety regulations
- Security, toughness, and environmental impact: Set priorities for careful installation

### **H. General Provisions**

- Adequate power back up through DG sets
- Waste collection facilities
- CCTV Facilities

#### **1.2.2.4.3 Material list**

<b>SI No</b>	<b>Application</b>	<b>Material to be used</b>	<b>Remarks</b>
1.	Cladding	Natural Stone	-
2.	RCC	M-40 Grade	-
3.	Safety barriers, Parapets and handrails	SS 316 (Austenitic stainless steel), coloured stainless steel	-
4.	Tactile Ground Surface Indicators (TGSi)	Concrete paving tiles with tactile impression	-
5.	Streetlight poles	Decorative type MS/GI/CI pole coated with higher corrosion resistance paints like marine grade PU paints (ISO 12944, C5(M) class)	-



6.	Streetlight fixtures	Aluminium die cast / cast iron / powder coated sheet steel / SS, coated with higher corrosion resistance paints like marine grade paints (ISO 12944, C5(M) class).	Screws, rivets, nuts and bolts used to fix should be of SS. IP 68 enclosures for electronic parts
7.	Illuminated Billboard	Acrylic Board with SS 316 frame work	Material, Fixing and placement must be carefully done ensure maximum visibility from the beach, sustain wave splashes and corrosion
8.	CCTV Facilities	As per approved makes	Ensure coverage of the entire area
9.	Signages	ACP and vinyl fluorescent sticker	As per Blue Flag Norms

#### 1.2.2.4.4 Conceptual Layout

## Conceptual Visualisation of Developments at Edakkal Rock



## 1.2.3 ASSOCIATED MECHANICAL ELECTRICAL AND PLUMBING SERVICES FOR PROJECT COMPONENTS EXCLUDING O&M

### 1.2.3.1.1 Fire Protection System

The objective of the fire protection system is to provide safety of occupants and properties while complying with all statutory requirements.

Following buildings may require proper fire protection systems

1. Corporation Land including Admin Block, Rest room & Amenity Centre
2. Silent Valley Sun Bath Park

### 1.2.3.1.2 Fire Hazard Category

As per NBC, the Admin Office building is classified as Group E, Business building (Less than 10 m in height).

As per Department of Fire and Rescue Services, Government of Kerala, the Admin building comes under the category of Form No. "B-1", Business building (Height up to 10 meters). Major requirements as per NBC 2016 / Kerala Fire and Rescue Services check list are,

System	Components
Down Comer system	<ul style="list-style-type: none"><li>• Terrace tank (10000 Litres)</li><li>• Terrace pump 450 LPM @ 3.5 kg/cm<sup>2</sup></li><li>• Down Comer pipe with valves and fittings</li><li>• Hydrant Valves</li><li>• First Aid Hose Reels</li><li>• RRL Fire Hose</li><li>• Branch Pipe with Nozzle</li><li>• Hose Boxes</li></ul>
Signages	Exit, Fire station, Assembly point etc.
Fire Extinguishers	ABC (Dry Chemical) & CO <sub>2</sub> Fire Extinguishers
Manually Operated Electronic Fire Alarm System	Hooter and Manual Call Point

As per NBC, the Silent Valley Sun Bath Park & Corporation Land are classified as Group A5, Hotels (Less than 15m in height).

As per Department of Fire and Rescue Services, Government of Kerala, Silent Valley Sun Bath Park & Corporation Land buildings comes under the category of Form No. "R-7", Hotels (Height less than 15 meters and floor area not exceeding 300 m<sup>2</sup> on any of the floor) Major requirements as per NBC 2016 / Kerala Fire and Rescue Services check list are:

System	Components
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First Aid Hose Reel system	<ul style="list-style-type: none"> <li>• Terrace tank (5000 Litres)</li> <li>• Terrace pump 450 LPM @ 3.5 kg/cm<sup>2</sup></li> <li>• Fire pipe with valves and fittings</li> <li>• First Aid Hose Reel</li> </ul>
Signages	Exit, Fire station, Assembly point etc.
Fire Extinguishers	ABC (Dry Chemical) & CO <sub>2</sub> Fire Extinguishers
Manually Operated Electronic Fire Alarm System	Hooter and Manual Call Point

### **1.2.3.1.3 Public Health Engineering**

The EPC Contractor shall carry out Design, Engineering, Supply, Installation, and Testing & Commissioning for Plumbing (Water Supply and Sanitary System). The work shall in general conform to the latest national / international standards and CPWD Specifications. The water supply and sewerage demand shall be estimated, based on the average population visiting the beach, as per available records.

#### **A. Internal Plumbing Works**

- i. Sanitary fixtures & C.P brass fittings
- ii. Water Supply distribution system (domestic + flushing)
- iii. Disposal of soil, waste & rain water etc.

#### **B. Water Distribution / Supply System**

- i. The domestic water supply to the buildings shall met from municipal water supply system. Secondary source will be from rain water harvesting. Gardening water shall be from STP Treated water.
- ii. Water shall be fit for domestic use as per latest IS specifications
- iii. Storage water for Fire services, Domestic use and Rain water harvesting

#### **C. Drainage and Sewerage System**

- i. The Drainage/sewerage system shall be planned from buildings up to the Sewage Treatment Plant.

#### **D. Storm Water Drainage System**

- i. Collection and conveyance around the Project components & its disposal system.

#### **E. Garden Hydrant System**

- i. External garden hydrant system to supply the water for horticulture purpose to all landscaping/green area around the buildings.

#### **F. Water Transfer Pumps / Booster Pumps**

Water supply transfer pumps and Booster pumps with PLC control panels for domestic and drinking water system to be considered. Adequate pressure required for respective plumbing fixtures shall be maintained.

## **G. Design Considerations**

Basic objective is to provide all sanitary engineering services and specification in relation to:

- i. High standards of materials and workmanship.
- ii. Leak proof plumbing for drainage and water supply system.
- iii. Plan the system in such a way as to minimize the energy requirements.
- iv. Less maintenance and automatic operation of systems.
- v. Low flow fixture usage as per relevant norms.
- vi. STP treated water reuse /Rain water reuse considering sustainable aspects.
- vii. Water treatment system for domestic and drinking purpose. Periodic measurement of water quality to confirm that relevant water quality standards are maintained

## **H. Approach to Planning**

The plumbing services for the Project are to be designed keeping in view the following:

- i. The domestic water storage tank capacity shall be of 1.5 days capacity and half day capacity at the terrace tank level.
- ii. Implementation of requirements of Kerala Municipality Building Rules relating to rain water harvesting, water conservation, use etc.
- iii. Economic designs with cost effectiveness.
- iv. Appropriate selection/recommendation of materials and equipment in terms of technology
- v. Water conservation using low flow fixtures according to relevant norms.
- vi. Water supply and Drainage provision for Landscape layout, as applicable.
- vii. Total water requirement should be worked out as per NBC norms.

## **I. Water Supply System**

### **i. Water source:**

There are two sources through which water can be made available for this Project. It can be made available with the help of Kerala Water Authority or by rainwater harvesting systems.

### **ii. Water Distribution:**

The incoming main from municipal water is stored in domestic water tank as per the design capacity. Rain water shall be used for domestic purpose after sufficient water treatment process.

Domestic water shall be pumped to overhead fire tank by water transfer pump. Over flow from fire tank will be stored in OH domestic water tank which shall be of minimum 50% of one day water demand. From there domestic water is transferred to respective areas by booster pumping. Presently, STP treated water is not considered for flushing purpose. But, dedicated flush water

concealed piping provision can be considered for all internal toilets for easy separation of domestic & flush water system in future.

Domestic water shall be treated through RO plant and stored in a stainless-steel tank for drinking water distribution purpose. Booster pumping system can be considered for distributing drinking water to delivery taps/drinking fountains. Drinking water serving area shall be maintained at very hygienic & aesthetically pleasing manner.

iii. Projected Total Water requirement

1. Average daily footfall of tourists in Kovalam beach = 2500 Nos
2. Expected water demand per Beach visitor = 15 ltrs.
3. Domestic water demand will be 55% of water demand
4. Non domestic water demand will be 33% of water demand
5. Drinking water demand will be 12% of water demand

Tentative tank capacity for the Project is mentioned below.

Note: Actual capacity has to be designed by Contractor after water calculation design.

<b>TANK CAPACITY REQUIRED</b>				
<b>TANKS</b>	<b>UG TANK</b>	<b>OH TANK</b>	<b>UNIT</b>	<b>REMARKS</b>
Domestic Water	50000	17000	ltrs	
Flush Water	-	-	ltrs.	Treated Water Tank to be used for flushing and gardening
Rain Water	10000	-	ltrs.	
Drinking Water	9000	-	ltrs.	
Fire Tank	-	20000	ltrs.	

Please note, the above details are for information and the contractor have to check verify the above data as per the Project components. The bidder shall provide under ground tank with a capacity of 50000L. Along the road, a fire line and adequate hydrants shall be provided. Inside the buildings , adequate number of fire extinguishers shall be provided.

iv. Drinking water distribution system

Centralised RO plant with Hydro-Pneumatic Pumping systems, Stainless steel water storage tanks, CPVC Sch 80 Pipes, SS Valves & Taps for drinking distribution shall be considered. Drinking fountains shall also be considered at strategic locations. One drinking water serving point shall be ensured at 200m intervals of walkway / length of beach. Recirculation systems for RO water network shall be included in design to avoid contamination drinking water in stagnant lengthy pipework.

**J. Sanitary Works**

i. Sanitary Fixtures & CP Brass Fittings

Plumbing fixtures, Chrome Fittings and accessories will be as per IS: 781-1984.

ii. Porcelain Fixtures of Fairly High quality as given below

- a) WCs: - Premium Quality Wall hung European water closet working with flush valve system to be provided.
- b) Lavatory Basins: - Under counter oval wash basins of suitable size as per IS: 2256 (Part 7) 1995 with infra-red sensor faucets shall be provided
- c) Urinals: - shall be White Vitreous China battery based infrared sensor operated of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side.
- d) Urinal Partitions: - Partitions shall be of 12mm thick HPL panels of required size fitted to wall, approved by Employer's Representative.
- e) Accessories: - Soap dispensers, toilet paper holders, hand drier, grab bar, etc. shall be of Stainless Steel
- f) Chrome Fittings: - Provision for additional and special fittings where required shall be made as per IS: 781 - 1984.
- g) Shower: - Minimum 200mm dia overhead rain shower head with diverter operated low level faucet shall be used
- h) Pillar Tap/Bibtap/Sink Cock: - CP brass material Low flow fixtures of 6lpm flow @ 3.1 bar pressure shall be used.
- i) Health Faucet: - CP Brass material low flow fixtures of 6lpm flow @ 3.1 bar pressure

**K. Soil & Waste Drainage System**

i. General:

- Drainage piping shall be designed on the basis of two pipe system as recommended in code of practice for soil and waste. Soil pipes shall carry the wastes from WC & urinals etc. shall connect directly to the soil manhole outside the building and directed to STP.
- Waste pipes shall carry the wastes from waste appliances (lavatory basins, sinks etc.). Waste pipes shall connect to Gully Traps outside the buildings and then, shall be connected to the external waste manholes and directed to STP.

ii. Design Parameters:

- Piping system has been designed in accordance with Code of Practice for Installation of Soil & Waste Pipes.
- All vertical stacks will terminate as vent pipes at parapet level.
- Dedicated vent pipes shall be considered for soil & waste systems

iii. Pipe Work:

- Provision has to be made to provide cleanout doors and plugs for Roding and maintenance where necessary and required.

iv. Materials for Soil, Waste and Vent pipe System:

Pipes used for Soil & Waste system shall be uPVC SWR TYPE B as per IS 13592. Pipes used for vent system shall be uPVC SWR TYPE A as per IS 13592. The pipes and fitting are jointed as per standard installation methodology/specifications.

**L. Sewage Collection and Disposal:**

The sewerage system shall be designed as per IS specifications. The Soil, waste and vent pipes are integral parts of the sewerage system that carries foul and ablution wastes from the building fixtures to the sewer system outside the complex to STP. Thus, serves for efficient and quick disposal of sewage and waste water from the building. Deep seal traps i.e., of 65mm water seal shall be provided for floor drains and urinal traps

The minimum diameter of the vertical soil & waste water stack shall be 110mm. All fixtures and appliances shall be fully trapped to prevent back flow of foul gases and odour into the toilets. Ground floor appliances shall be separately connected to the external gully trap/ manhole.

**M. Storm Water Drainage System:**

a) Planning of Storm Water Drainage System:

- Rain water from terrace floor level collected in the rain water tank is used for domestic purposes after water treatment process. Rain water harvesting tank is designed as per the KMBR. The rainwater from the open surface areas is connected to the main storm-water trench along the periphery. Trench with gratings of suitable size shall be designed as per the site conditions. All paved/road/green areas, the run off shall directly connected to the main storm water drains
- The network of storm water system shall be mostly catch basins and SWR Type B 6kg/cm<sup>2</sup> uPVC pipes. The pipe through shaft shall be with SWR Type A-4kg/cm<sup>2</sup> uPVC pipe. NP2 Pipes shall be considered for external rain water pipes routing to rain water tank. Filter chambers has to be considered before the rain water tank for rain water filtering. The main external pipe dia. has to be considered as per calculation and site conditions.

b) Design Parameters:

- Minimum Pipe diameters for Rain Water Pipes from Terraces shall be 110 mm.
- Min. Pipe diameters for main rain water drain will be 250 mm dia. in line with local authority requirements.
- All construction specifications with respect to the manhole sizes etc. will be respected and followed and as per CPWD specification.

**N. Irrigation System for Lawns and Gardens:**



Gardens and lawns shall be irrigated in combination of Garden Hydrant System and Sprinkler

Irrigation System. STP treated water shall be used for irrigation system. The automatic pumping system shall be designed as per the water demand for the irrigation system.

i. Garden Hydrant System, Network System:

- Provide a separate and independent captive garden hydrant system to supply water for horticultural operations to all landscaped areas.
- The distribution grid for garden mains will be by a separate grid of UPVC pressure pipes and connected to a separate pumping set obtaining its water supply from STP & rain water tank.
- All the piping for garden hydrant shall be with UPVC pressure pipes conforming to Indian Standard specifications.
- Garden hydrant points will be of 25 mm outlets and located approximately 45-50 m apart.
- The garden hydrant pumping system shall be planned so that the grid is sized to cater for a maximum of 6 outlets operated at the same time.

ii. Sprinkler Irrigation System, Network System:

- Sprinkler Irrigation is a method of applying irrigation water which is similar to rainfall. Water is distributed through a system of pipes usually by pumping. It is then sprayed into the air and irrigated entire soil surface through spray heads so that it breaks up into small water drops which fall to the ground.
- Sprinklers provide efficient coverage for small to large areas and are suitable for use on all types of properties.
- It shall be designed to ensure maximum water saving, combining high quality, affordability and ease of installation. All the products are made out of high strength & chemical resistant engineering plastics to achieve functional satisfaction and to maintain cost economics.
- All sprinklers undergo extensive quality testing in lab. Performances of the products shall also be tested, as per relevant specifications, in the field to ensure uniform water distribution and higher efficiency

**O. Solid Waste Generation and Management:**

The Contractor shall carry out Design, Engineering, Supply, Installation, Testing and Commissioning for Solid Waste Generation and Management System. The Solid waste generated from the Project will be collected and managed as per Solid Waste Management Rules, 2016. The Project will adopt a systematic approach for solid waste collection and disposal. The domestic solid waste generated pertains to the two categories, Bio-degradable and Non-biodegradable. These solid wastes will be collected separately by putting different types of separate bins at the source of generation. Solid Waste generated is collected at the source of generation and segregated. The bio-degradable waste is converted into manure using organic waste converter & inorganic waste is sent for recycling.

#### 1.2.3.1.4 Air Conditioning & Ventilation Systems

##### Air conditioning Systems

DX Split Air Conditioning systems shall be used for air conditioning required areas. Necessary heat load calculations shall be done by the contractor and forwarded to Employer's Representative for confirmation of cooling capacities calculated for different areas. Green refrigerant based, Inverter driven and minimum 3 star rated A/C systems shall be selected. Location & type of indoor units shall be as per the directions and recommendations of Employer's Representative. Provision for proper condensate drain piping for all indoor units shall be considered.

##### Ventilation Systems

Necessary forced ventilation systems shall be considered for all Toilets, Kitchens, Store rooms and Plant rooms. Air changes per hour (ACPH) required shall be as per NBC 2016/ISHRAE standards.

Spaces to be air conditioned		
Sl No:	Component	Element
1	DEVELOPMENT OF SILENT VALLEY SUN BATH PARK	Art Cafe and Library in Retrofitted Restaurant Building:
2	DEVELOPMENT OF CORPORATION LAND	Beachfront Plaza: Office space
		Café

#### 1.2.3.1.5 Electrical Systems

The success of execution of any infrastructure Project heavily depends on the efficient integration of electrical systems that guarantee safety, functionality, and efficiency. Electrical work is essential for supplying many components of the Project with power, illumination, communication, and security. The design considerations should be,

- Compliance with the industry standards
- Fulfilment of the unique requirements of the development
- Promote consistency, quality, and dependability throughout the Project's lifespan by offering a disciplined approach to electrical design
- Creation of a safe, efficient, and technologically advanced environment
- Enhancement of the overall quality of the development and user experience

Suitable size cables as per the design calculation and requirements of KSEB shall be laid from existing KSEB transformers located at either ends of the pathway of light house beach and terminated in the proposed Main LT panel in the electrical room in Administration Block. All OH electrical and ELV lines shall be converted to underground cables laying in trench in coordination with KSEB and other Government Departments. Required number of outdoor feeder pillars shall be considered for

changing overhead lines / connections to underground lines / connections. The termination of power connection to each shop and residential building in pathway, and as well as the required connections for changing overhead lines to underground is to be done in consultation with KSEB. Street light poles shall be decorative type suitable for the aesthetics and shall be coated with higher corrosion resistance paints like marine grade PU paints (ISO 12944, C5(M) class). All outdoor and indoor light fixtures shall be made of aluminium die cast / cast iron / powder coated sheet steel / SS, coated with higher corrosion resistance paints like marine grade paints (ISO 12944, C5(M) class). Suitable size UPS shall be considered for all buildings, 20% lighting load and wherever computer / electronics loads.

#### **1.2.3.1.5.1 Electrical Power Distribution System**

The efficient distribution of electrical power forms the backbone of any modern infrastructure Project. Design a highly efficient electrical power distribution system that ensures uninterrupted and safe delivery of electricity to various components. This comprehensive system should encompass the generation, transmission, distribution, and utilization of electrical power, catering to the diverse needs of the development.

##### **A. Design Considerations**

- **Net Zero Energy Design**

The Project should attempt for Net Zero Energy design. This shall be achieved by producing energy onsite via equipment like solar panels, etc. accounting for its energy use through clean energy production offsite, and reducing the amount of energy required through design optimization. This will require a value-driven approach and understanding of the unique climate and ecological conditions of the site

- **Renewable energy Integration**

The Project should support use of renewable energy sources as far as possible to produce clean energy and reduce greenhouse gas emissions.

- **Energy Savings System:**

Implement a sophisticated energy management system that automatically controls lights, appliances, and equipment to optimize power use. Lower operational expenses and energy waste while taking into account the durability of materials in the harsh coastal environment should be the considered.

- **Minimum Initial Investment:**

Strategically choose cost-effective electrical components and technologies without sacrificing quality to achieve the lowest initial investment. This guarantees a profitable initial investment while taking the characteristics of the coastal region into account for the durability of the materials.

- **Maximum Service Continuity:**

The electrical system should be designed with redundancy and backup power sources to provide continuous operation and reduce downtime during unplanned power outages, which can happen more frequently in coastal locations.

- **Maximum Electrical Efficiency:**

Considering the durability of materials exposed to coastal elements, prioritize the use of high-efficiency electrical equipment and components to reduce energy losses and optimize the system's overall electrical efficiency.

- **Operating Limits to Service Voltage (Consumer Terminal Voltage):**

To minimize damage to machinery and appliances and to give consumers continuous, dependable electricity while taking into account the effect of coastal conditions on materials, make sure the system is operating within acceptable voltage limits.

- **Distribution Design Level:**

Considering the durability of materials in the coastal environment, determine the ideal distribution design level that balances load distribution, reduces voltage drop, and assures an even supply of power across the Project area.

- **Basic Insulation Level:**

Choose insulating techniques and materials that offer a solid and dependable barrier against electrical faults, improving the system's safety and durability, particularly in the presence of coastal elements.

- **Thermal Limits:**

Consider the influence of the coastal climate on temperature while designing the system to work within safe thermal limits, preventing overheating, and maintaining the durability of electrical parts and wiring.

- **Protection Against Faults:**

Consider the endurance of materials in coastal circumstances when including complete protection systems such circuit breakers, fuses, and ground fault protection to quickly isolate and reduce failures, assuring safety and reducing damage. To quickly isolate and reduce faults, ensure safety, and minimize damage while taking into account the durability of materials in coastal circumstances, incorporate thorough protection systems including circuit breakers, fuses, and ground fault protection

- **Safe, Reliable, and Secure System:**

To ensure a safe and secure electrical environment for both people and equipment, even in the context of coastal obstacles, integrate fail-safe safeguards, secure access controls, and redundant systems.

- **Minimum Operation & Maintenance Cost:**

Consider the robustness of materials in coastal settings when choosing dependable, low-maintenance components and technologies that lower ongoing operating and maintenance costs while assuring reliable performance.

- **Maximum Power Quality:**

Use power conditioning techniques to offer high-quality electricity that protects delicate equipment even while exposed to coastal elements, maintain constant voltage levels, and eliminate harmonic distortions.

- **Environmental & Social Impact:**

Prioritize sustainable practices by choosing eco-friendly materials, reducing energy use, and taking into account the social effects of the electrical system on the neighbourhood, including the environmental effects of coastal materials.

- **Low Maintenance & Quick Restoration:**

Design the system with user-friendly maintenance features and efficient fault detection systems that facilitate rapid troubleshooting and restoration, factoring in the potential challenges posed by coastal conditions.

- **Carbon-Neutral Validation:**

Validate and get certified the Project's carbon-neutral status. This should involve meticulous measurement and reporting of energy generation and consumption, ensuring that the Project substantially minimizes its carbon footprint.

## **B. Design Guidelines**

- I. **Change to Underground Cabling:** To improve security and appearance, install an underground cabling system in place of the current overhead power and data cables.
- II. **Materials Resistant to Corrosion:** To guarantee lifespan and durability, make sure all components, including light poles, fixtures, feeder pillars, outdoor lighting panels, solar panels, CCTV, and PA systems, are built from materials that are corrosion-resistant.
- III. **To guarantee effective power distribution,** choose feeder pillars and cables depending on the present connected load as reported by the KSEB (Kerala State Electricity Board).
- IV. **Lux Level Compliance:** To maintain proper lighting levels in various places, adhere to the lux level norms set out by the National Building Code and Indian regulations.

- V. Connecting nearby businesses and structures to the LT subsurface distribution network via the pathway network's utility corridor will make it easier to provide each plot with a convenient power supply.
- VI. Building owners are in charge of planning routes through their properties to facilitate electrical wiring, providing a smooth integration without interruptions.
- VII. Integrate rooftop solar systems when practical to partially satisfy the region's energy needs. Along with the LT panel, install inverter/cum rectifier equipment and solar panels.
- VIII. Use energy-efficient smart LED lighting systems for both indoor and outdoor applications.
- IX. Providing adequate power back up through DG sets, associated civil works, DG exhaust system in accordance with PCB norms is in the scope of EPC contractor. DG shall cover all areas of the Project excluding power/lights to be provided through KSEB network. DG shall be installed adjacent to electrical switch room wherever possible and operate automatically through AMF in case of KSEB power outage.

#### 1.2.3.1.6 LT cable laying & utility shifting

- **Cable Type and Standards:** Employ 3.5-core Aluminum Armored XLPE cables that are 1100V LT (Low Tension) compliant and in line with IEC 60502-2 requirements. Since these cables are built for subterranean installation, safety and effective power delivery are guaranteed.
- **Underground Installation Depth:** Cables should be installed at least 750mm below ground in RCC cable trenches. Make use of galvanized trays/ HDPE made for outdoor use to provide optimum security and lifespan.
- **Galvanized Tray/ HDPE and Mounting:** Choose galvanized trays/ HDPE that fulfill the requirements for ladder cable trays. In case of galvanized tray, a minimum zinc covering of 72 microns is required. Use the proper anchor fasteners and mounting accessories to firmly attach trays in accordance with IEC-61537.
- **Corrosion Protection:** To effectively protect trays from corrosion from the elements, galvanize them in accordance with IS 277 requirements.
- **Cable Termination at Feeder Pillars:** Finish cables at each selected feeder pillar position. Along the way, these feeder pillars will be placed in thoughtful locations.
- **Cable Routing:** For streamlined and effective cable management, run wires using RCC Masonry Cable Trenches.
- **Transition to Underground Cabling:** To improve safety and aesthetics, switch from the current overhead power lines to subterranean cables.

- **Data Cable Conversion:** In accordance with the overall transition, work with the service provider to convert data cables to subterranean installations.
- **Main Feeder Pillar:** Place the main feeder pillar in the administrative block's electrical panel room for centralized control.
- **Feeder Pillar Placement:** Enough feeder pillars should be placed strategically along the pathway to enable efficient power distribution to nearby buildings.
- **Cable Size Calculation:** Ensure that the cable size is calculated accurately based on the load requirements, considering factors like voltage drop and load diversity.
- **Cable Protection Methods:** Specify suitable cable protection methods such as conduits or ducts where necessary, particularly in areas with high foot traffic or potential mechanical stress.
- **Earthing and Grounding:** Include guidelines for proper earthing and grounding of the cable system to ensure safety and minimize the risk of electrical faults.
- **Inspection and Testing:** Outline procedures for cable inspection and testing to verify the quality and integrity of the installed cables.
- **Documentation and As-Built Records:** Emphasize the importance of maintaining accurate documentation and as-built records of cable installations, including cable routes, termination points, and any deviations from the original plan.
- **Safety Measures during Installation:** Provide guidelines for ensuring safety during cable installation, including precautions to prevent accidents, proper signage, and adherence to electrical safety regulations.
- **Future Expansion Considerations:** Consider the possibility of future expansions or modifications and provide guidelines for accommodating additional cables or changes in the cable network.
- **Coordination with Other Services:** Highlight the need for coordination with other services or utilities that might share the same cable trenches or pathways.
- **Environmental Considerations:** Consider environmental factors that might impact cable installations, such as exposure to moisture, saltwater, or extreme weather conditions.
- **Quality Assurance:** Specify guidelines for ensuring the quality of cable materials, testing, and installation workmanship to maintain the integrity of the electrical system.

#### **1.2.3.1.7 Internal and External illumination system.**

The illumination system at Kovalam Beach's walkway is a crucial aspect of the Project, aiming to enhance both its functionality and aesthetic appeal. It consists of a well-

planned arrangement of lighting fixtures to ensure the safety, visibility, and ambiance for pedestrians, cyclists, and light vehicles using the walkway. By incorporating advanced lighting technologies and design principles, the system provides uniform illumination levels, reduces glare, and promotes energy efficiency. It seamlessly integrates with the surrounding environment, accentuating architectural features and landscape elements while adhering to established standards and codes [3]. The thoughtful integration of lighting creates an inviting and secure atmosphere, enriching the overall experience of visitors and residents and transforming the walkway into a vibrant and captivating destination, day and night.

#### **A. Design Considerations**

- i. **Walkway Width and Movement Scenarios:** To correctly space and position the lighting fixtures, ascertain the precise width of the walkway. To guarantee proper coverage and visibility, take into account the movement possibilities of pedestrians & buggies.
- ii. **Illumination Levels and Fixture Selection:** Calculate and define the proper lighting levels for each area of the pathway, putting everyone's safety and comfort first. To attain the desired brightness, use lighting fixtures with a high lumen output and appropriate beam angles.
- iii. **Reduced glare and uniformity:** To reduce glare and maintain even illumination over the pathway, design fixtures with the right shielding and optics. To distribute light uniformly without producing hotspots or dark patches, use lenses or diffusing materials.
- iv. **Durability and Weather Resistance:** Make sure that the lighting fixtures you choose can resist outside circumstances including precipitation, temperature changes, and UV exposure. For materials that will last in coastal conditions, choose ones with corrosion-resistant qualities.
- v. **Energy Management and Efficiency:** Use LED lighting technology since it uses less energy and has a longer lifespan. To reduce energy consumption, integrate smart lighting controls including timers, daylight sensors, and motion detectors.
- vi. **Placement and Spacing of Fixtures:** Fixtures should be deliberately placed to avoid jarring shadows and guarantee uniform lighting. Fixtures should be positioned according to the walkway's width and the appropriate lighting levels.
- vii. **Integration with the built environment:** Work with landscape architects to incorporate lighting fixtures into the environment naturally while accentuating landscaping and foliage. Make sure that the fixtures accentuate the walkway's architectural features so they add to its overall aesthetic appeal.
- viii. **Improvements in safety:** To ensure user safety, especially in low light situations, take into account lit markers, step lights, and signs.



- ix. **Ambiance and aesthetics:** Select lighting fixtures whose patterns fit with the neighborhood's overarching motif to enhance the attractiveness of the pathway. To create a warm and cozy atmosphere, choose warm color temperatures.
- x. **Upkeep and accessibility:** Create fixtures that are simple to maintain, allowing for the rapid replacement of parts like LED modules or drivers. Make sure that maintenance workers can reach fixtures in a secure and effective manner.
- xi. **Automated Outdoor Lighting Panels**

For seamless and effective functioning, smart lighting and/or automatic timers shall be used for external lights. Smart lights can be synchronized with sunrise and sunset to get more light out of the day. Timers can be used to turn the lights on or off whenever required.

## **B. Technical Details of walkway lighting system**

The proposal should include the installation of post-top lights, specialized bollards, wall washer lights, and RGB lights as required for external illumination. All areas should be designed to meet the necessary illumination levels as specified elsewhere in this document and as per the National Building Code (NBC).

<b>S. No</b>	<b>Description</b>	<b>Remark</b>
1.	Area of installation	Beach side.
2.	Pole mounting details	Post top on one side of the pathway.
3.	Light fixture	LED fixture with IP 65 rating designed for aesthetics.
4.	Boom length/Angle	0 Meter / 0°
5.	Maintenance Factor	0.8
6.	Mounting height	3.6 Meters
7.	Spacing	15 Meters
8.	Lux level (Eav)	17 lux
9.	Colour Temperature	3000 K
10.	Uniformity Ratio (U0)	Consider uniformity of illumination.
11.	Glare Rating (UGR)	Ensure low Unified Glare Rating.
12.	Power Factor	Not applicable for solar-powered lights.
13.	Color Rendering Index (CRI)	High CRI for accurate color rendering
14.	Emergency Lighting	Include battery backup for emergencies

15.	Environmental Conditions	Consider coastal conditions (humidity, salt)
16.	Light Distribution Pattern	Choose appropriate light distribution
17.	Lighting Controls	May include dimming or motion sensors, depending on solar system capabilities.
18.	Longevity and Maintenance	Opt for durable fixtures with minimal maintenance, compatible with coastal environment.

### C. Technical Details for Illumination of Silent Valley Sun Bath Park

S.No	Description	Remark
1.	Area of installation	Silent Valley Sun Bath Park- Exterior and Interior Space.
2.	Exterior Fixture Types	decorative and commercial aesthetically pleasing LED light fixtures with IP 65 rating, designed to match park aesthetics.
3.	Pathway Lighting	Bollard lights or solar paver lights along pathways, ensuring safe navigation and elegant ambiance.
4.	Seating and gathering	Wall-mounted fixtures or integrated seating with built-in solar-powered illumination.
5.	Focal Point Highlighting	Adjustable solar spotlights to accentuate sculptures, art installations, and unique landscaping.
6.	Safety and Wayfinding	Solar-powered illuminated signage for directions and intersection safety.
7.	Aesthetic Illumination	decorative and commercial aesthetically pleasing LED light fixtures in trees and shrubs for a magical evening ambiance.
8.	Dark Sky Compliance	Downward-facing optics to minimize light pollution and maintain the park's serene atmosphere.
9.	Battery Backup	Solar fixtures with robust battery systems for consistent lighting during varying weather conditions.
10.	Lighting Controls	Intelligent controls for adaptive lighting based on park activity and time of day.
11.	Interior Fixture Types	decorative and commercial aesthetically pleasing LED light fixtures suitable for indoor use, designed for aesthetics and functionality.

12.	Indoor Pathway Lighting	decorative and commercial aesthetically pleasing LED light fixtures along indoor pathways for safe and visually appealing movement.
13.	Seating Areas	Incorporate solar-powered wall-mounted or pendant fixtures for comfortable and inviting seating.
14.	Focus Areas	Use solar spotlights to accentuate indoor artworks, displays, or points of interest.
15.	Safety and Accessibility	Ensure even illumination in indoor spaces to promote safety and ease of movement during evening hours.
16.	Aesthetic Ambiance	Implement warm color temperatures and decorative fixtures to create a pleasing indoor atmosphere.
17.	Battery Backup	Equip indoor fixtures with sufficient battery capacity for consistent lighting during cloudy periods.
18.	Lighting Controls	Incorporate indoor lighting controls for adjusting brightness based on indoor activities and preferences.

#### **D. Technical Details for Illumination of Corporation Land**

<b>S.No</b>	<b>Description</b>	<b>Remark</b>
1.	Area of installation	Corporation Land Park - Exterior and Interior Space.
2.	Exterior Fixture Types	decorative and commercial aesthetically pleasing LED light fixtures with IP 65 rating, designed to match park aesthetics.
3.	Pathway Lighting	Bollard lights or solar paver lights along pathways, ensuring safe navigation and elegant ambiance.
4.	Play and Recreation Areas	Install solar lights near play zones and recreational facilities for safe and engaging evening activities.
5.	Interactive Elements	Utilize solar-powered color-changing lights or illuminated interactive installations for engagement.
6.	Picnic and Relaxation	Soft lighting in picnic areas using solar lanterns or overhead string lights for a relaxed atmosphere.
7.	Dark Sky Compliance	Downward-facing optics to minimize light pollution and maintain the park's serene atmosphere.
8.	Battery Backup	Solar fixtures with robust battery systems for consistent lighting during varying weather conditions.

9.	Lighting Controls	Intelligent controls for adaptive lighting based on park activity and time of day.
10.	Interior Fixture Types	decorative and commercial aesthetically pleasing LED light fixtures suitable for indoor use, designed for aesthetics and functionality.
11.	Indoor Pathway Lighting	Low-level solar lights along indoor pathways for safe and visually appealing movement.
12.	Seating Areas	Incorporate solar-powered wall-mounted or pendant fixtures for comfortable and inviting seating.
13.	Focus Areas	Use solar spotlights to highlight indoor displays, artworks, or features of interest.
14.	Safety and Accessibility	Ensure even indoor illumination for safety and ease of movement during evening hours.
15.	Aesthetic Ambiance	Opt for warm color temperatures and decorative fixtures to enhance the indoor ambiance.
16.	Battery Backup	Indoor fixtures with sufficient battery capacity for consistent lighting even in cloudy conditions.
17.	Lighting Controls	Implement indoor lighting controls for adjusting brightness based on indoor activities and preferences.

The watch tower, Bridges and wall areas can be washed with colour changing light fixtures it can be programmable to different themes. These types of light fixtures make high impact on architectural effects, 20m long high mast lights shall be provided across the beach area for general lighting.

#### 1.2.3.1.8 LV distribution

The Project's Low Voltage Distribution System, which enables effective and secure power distribution, is essential. The following guidelines must be met in order to assure top performance and durability in a coastal environment:

##### A. Design Considerations

**Switchgear Protection:** Marine-class paint or Fiberglass Reinforced Polyester must be applied to Switchgear Protection: All-LV switchgear panel boards must be of GRP/FRP/thermoplastic panel boards.. The equipment's lifespan is increased by this protective coating, which shields against the corrosive effects of the salty air common in coastal settings.

**Separation Form:** Main panel configuration must follow the 3 and 4 types of separation, as required by KSEI/KSEB. This separation strategy assures adherence to legal requirements, improving the distribution system's safety and effectiveness.

**Bus Bar Design:** Designing bus bars requires taking into account current densities of 0.8A/mm<sup>2</sup> for aluminum and 1.2A/mm<sup>2</sup> for copper. This procedure enhances the system's performance and dependability, avoiding overheating and raising overall effectiveness.

**Feeder Pillar Redundancy:** Equip the main feeder pillar with two 400A Microprocessor Release MCCBs featuring bus coupler capability. This setup accommodates power supply from two different distribution transformers, ensuring redundancy and enhancing the resilience of the distribution system.

**Standards Compliance:** Ensure that the design and implementation adhere to IS 8623 and IEC 61439 1 and 2 standards. These industry standards ensure the quality, safety, and performance of the distribution system, meeting regulatory and operational requirements.

**Cables and Wires:** Employ 1100V grade Aluminium/Copper conductor cables with XLPE/PVC insulation, both armoured and unarmoured, in accordance with IS: 7098 and IS: 1554 requirements. The maximum voltage drop for wires should not be greater than 3%. For outdoor terminations, use double compression brass cable glands; for indoor terminations, use single compression brass cable glands.

**Wiring Practices:** Follow the requirements of IS 732 for wiring techniques. Use multi-strand copper conductor wires with FRLS PVC insulation for lighting circuits. For lighting point looping, use 3R-1.5 mm<sup>2</sup> wires, and for the mains of the lighting circuit, use 3C x 2.5 mm<sup>2</sup> cable wires. Choose 3C x 4.0 mm<sup>2</sup> cable/wires for 16A Sockets (RP/UPS) circuits. Modular style switches should be used in internal wiring for increased usefulness and comfort.

**Distribution Boards:** Each distribution board should incorporate features that enable close monitoring of circuit breaker trips and power consumption. Power and light distribution boards, including vertical distribution boards, are essential components. Inside each distribution board, provide a durable drawing detailing circuit specific, controls, MCB ratings, and other vital details. This drawing should be made of durable material like PVC and affixed inside the distribution board.

**Installation Considerations:** Distribution boards should be installed in areas that are clean, dry, and well-ventilated to ensure easy access to the board and the area around it. Promote accessibility and safety by positioning the bottom side of MCB distribution boards at a minimum height of 1500mm from the completed floor level.

**Conformity to Standards:** The applicable IS norms must be rigorously followed in the design and installation of distribution boards. The distribution boards' compatibility, safety, and quality are all guaranteed by conformance to recognized standards.

### **Renewable energy integration**

Design the LV (Low Voltage) distribution system with renewable energy integration and should involve seamless incorporation of photovoltaic (PV) systems, synchronizing inverters, and facilitating battery storage. It should support microgrid capabilities, prioritize renewable sources, and employ smart grid technologies for real-time

monitoring. Additionally, it must regulate voltage, detect faults, and address harmonics. The Energy Management System (EMS) should optimize usage, and compliance with grid codes is crucial. These measures should ensure an efficient and resilient LV distribution network with maximum utilization of renewable energy sources.

#### **1.2.3.1.9 Extra Low Voltage system.**

Extra Low Voltage (ELV) system integration is essential for guaranteeing flawless public address, networking, and surveillance throughout the Project. These systems include a variety of cutting-edge technology intended to improve connection, safety, and operational effectiveness within the facility. The extensive ELV systems, which were thoughtfully designed to satisfy the Project's many communication and security demands, include Closed Circuit Television (CCTV), Public Address (PA), Local Area Networking (LAN), and Telephone (PABX) systems. The bidder shall conduct necessary survey to locate the existing ELV system.

**A. Design considerations for ELV Systems:** The need for reliable voice, video, and data connections across the building drives the design of ELV systems. Important elements influencing the design include:

**Central Control and Accessibility:** ELV systems are carefully engineered to provide centralized control and remote access, enabling effective operation, security, and real-time monitoring from the Central Control Room/Server Room.

**Integration of Communication Networks:** The integration of diverse systems, such as PABX, CCTV, LAN, and PA, is designed to provide smooth interconnection and enable harmonious operation of various components.

**Public Safety and Surveillance:** To provide thorough monitoring for improved public safety, the CCTV network is carefully constructed to cover important places such as sidewalks, park areas, and bridges.

**Connection and Accessibility:** To enable smooth communication and operations, ELV systems are designed with an emphasis on connection, accessibility, and user-friendly interfaces.

**Weather-Proofing:** ELV components used outside are built with sturdy weather-proof housings that retain performance and sturdiness even under adverse weather conditions.

#### **B. Technical Details for ELV Systems**

The ELV systems consist of a variety of parts, each of which is created with certain technical specifications to satisfy Project requirements:

**PABX System:** The administrative building is equipped with a Private Automated Branch Exchange (PABX) system that supports both analogue and digital phones for voice communication. For effective connectivity, the system makes use of 4-pair telephone wires within PVC conduit.

**CCTV System:** The Closed-Circuit Television (CCTV) network uses varifocal bullet cameras and PTZ cameras with 4MP resolution, IP68 and IK10 ratings, marine/corrosion proofing, SD card support, and Wide Dynamic Range (WDR) to cover a large area of the Project.

**LAN System:** The Local Area Networking (LAN) system uses CAT 6 unshielded twisted pair network cables for data connectivity, together with Access Points, a POE Network Switch, and horizontal cabling. Components used outside must be housed in weatherproof housing with a minimum IP65 grade.

**Public Address (PA) System:** With a coverage range of 30 to 40 meters, the Public Address (PA) system deploys horn/column type speakers along sidewalks and in corporate spaces. The administration building houses the controls for the delivery of announcements and light music.

**General Note:** The entire utility shifting and reinstallation of existing facilities (Electrical, ELV, Water supply, Drainage, etc, whatsoever) must be carefully planned, coordinated with respective Government departments and executed by the contractor at no additional cost. Contractor must ensure that no inconvenience is caused to the stakeholders and tourists during the execution of the above.

Providing, supply and installation of material shall be under the scope of contractor as per applicable Government norms/ Departmental Requirements.

### **General Design Considerations (Applicable to all facilities)**

- I. Prepare Design in accordance with Green Building Standards and obtaining required clearances from statutory authorities.
- II. Make design alteration as per the green building standards applicable for the project.
- III. Prepare Green rating checklist, revised estimates, addendum reports for additional financial sanctions related documents etc. specified by KIIFB for the project and prepare compliance documents as required in the circular GM-ESG/2703/2020 dated 16th October 2020 and order no. FA- 5/4466/2021/KIIFB dated 26.11.2021.
- IV. Ensure compliance of GRIHA/EDGE/ relevant Green building norms at site and that the compliance strategies are in place as mentioned in the non- compliance report and share photographs/documents of the same.
- V. Assist the team during the due diligence site visit as and when required GRIHA /EDGE /Other Green building services like Energy performance analysis and model simulation of the project in accordance with GRIHA, KSECBC 2017, or any other green building rating system specified by KIIFB.
- VI. Facilitate Green building rating that includes managing the documentation for GRIHA, EDGE any other green building rating system specified by KIIFB and for all certification, assistance and coordination.
- VII. Facilitate procurement of provisional GRIHA, EDGE or any other Green Building rating system from concerned Green building certified agency.
- VIII. Facilitate post occupancy resource efficiency audit to meet KSECBC, GRIHA, EDGE or any other green building rating system specified by KIIFB requirements and Final Award of rating from concerned green building certifying agency.

- IX. Prepare such further details and GFC drawings as are necessary for proper execution of the works.
- X. Prepare Detailed Project Report for the project as per the approved concept layout
- XI. Wherever the work involves any structural design/ additions/ alterations, the firm shall furnish one complete set of structural design and its calculations certified by competent authorities for Employer's approval.
- XII. The Contractor shall be fully responsible for the suitability, adequacy, integrity, durability and practicality of the Contractor's proposal.
- XIII. The Contractor warrants that the Works have been or will be designed, manufactured, installed and otherwise constructed and to the highest standards available using proven up-to-date good practice. By submitting the Drawings for review to the Employer's Representative, the Contractor shall be deemed to have represented that it has determined and verified that the design and engineering, including field construction criteria related thereto, are in conformity with the Volume- IV: Employer's Requirement, Standards and the Applicable Laws.
- XIV. The Contractor warrants that the Contractor's Proposals meet the requirements and is fit for the purpose thereof. Where there is any inadequacy, insufficiency, impracticality or unsuitability in or of the Requirements or any part thereof, the Contractor's Proposal shall take into account, address or rectify such inadequacy, insufficiency, impracticality or unsuitability at Contractor's own cost.
- XV. The Contractor warrants that the Works will, when completed, comply with enactments and regulations relevant to the Works.
- XVI. The Contractor warrants that the design of the Works and the manufacture of plant have taken or will have taken full account of the effects of the intended manufacturing and installation methods, Temporary Works and Contractor's Equipment.
- XVII. The Contractor shall also provide a guarantee from the Designer for the design for suitability, adequacy, and practicality of design for Employer's Requirements.
- XVIII. The Contractor 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.
- XIX. The Contractor further specifies and is deemed to have checked and accepted full responsibility for the Contractor's Proposal and warrants absolutely that the same meets the Employer's Requirements:

Apart from the Contractor, the above warranty shall also be applicable for his designer. This warranty shall be a part of his sub contract with the designer and should be made available at the time of signing of the Agreement.

No claim for additional payment or extension of time shall be entertained and/or no review and/or observation of the Employer's Representative 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 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.

In respect of the Contractor's obligations with respect to the design and Drawings of the Project as set forth in tender document, the following shall apply:



- I. The Contractor shall furnish design and drawings to Employer and in such sequence as is consistent with the Project Completion Schedule, required number of copies of all Drawings, to the Employer for review;
- II. The Employer shall review the drawings 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.
- III. If the aforesaid observations of the Employer 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 and resubmitted to the Employer for review within 7 days of receipt of communication from Employer's Representative. The Employer shall give its observations, if any, within 7 (seven) days of receipt of the revised Drawings; and

The Contractor's time and cost impacts of revisions arising from review by the Employer of designs caused by the Contractor's non-compliance with the requirements of this Agreement shall be borne by the Contractor, unless there is a variation.

The Works shall be executed in accordance with the design reviewed by the Employer, and shall not thereafter be amended or altered without the prior written approval of the Employer. If Employer/ Contractor becomes aware of an error or defect of a technical nature in the design that Employer / Contractor shall promptly give notice to the other Party of such error or defect. Such error or defect shall be rectified by the Contractor, without any cost to the Employer.

### **Construction of Building & Infrastructure**

Based on the guiding bidding documents given in the tender, approved Good for Construction Drawings/ Shop Drawings, Finishing /Flooring Schedule, approved makes of materials/equipment, Schedule of Doors / Windows fittings & fixtures, Schedule of Plumbing/Sanitary Fittings /Fixtures, Scale of amenities, the Construction of buildings, associated infrastructure & external development work & services, including retaining wall, parking area, connecting bridge shall be carried out and completed by the Contractor in a phased schedule as specified in the tender document.

1. The Contractor shall take all precautionary measures to safeguard safety measures against any accidents for the Contractor's employees, labour, public, and staff of the Employer by providing all necessary safety equipment, helmets etc. at work site.
2. The scope of work includes cost of all materials, manpower, equipment, T&P fixtures, accessories, royalties, taxes, watch & ward, and all other essential elements for completion. Any change, modification, revision etc. required to be

done by the Employer, local bodies, proof consultants, GRIHA Council etc. in accordance with applicable standards and bid document will have to be done at Contractor's cost and nothing extra shall be payable.

3. Approval of Employer's Representative at any stage of planning, design and construction of the project will not absolve the ingrained responsibility of the Contractor to execute the construction flawless and at par excellence and, if any aspect contrary to this owning up of responsibility is glaring, the Contractor will be held liable for such gross deviation.
4. The work shall be executed in accordance with the drawings /design approved by the Employer which are prepared by the Contractor in conformity with the scope of the project & specifications, standards and statutory requirements. The Contractor shall carry out and complete the said work in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Employer's Representative.
5. The Employer's Representative may in his absolute discretion and from time to time review the drawings/ designs & approve drawings/ designs and/or written instructions, details, directions and explanations, in regard to:
  - a. The variation or modification of the drawings, design, quality or requirement of works or the addition or omissions or substitution of any item.
  - b. Any discrepancy in the drawings or between the requirement of works and/or drawings and/ or specifications.
  - c. The removal from the site of any material brought thereon by the contractor and the substitution of any other material thereof.
  - d. The removal and/or re-execution of any works executed by the contractor.
  - e. The removal of any persons employed by the contractor on the site.
  - f. The opening up for inspection of any work covered up.
  - g. The amending and making good of any defects noticed during or after execution of the work.

The Contractor shall be solely responsible for the means, methods, techniques sequence and procedure of construction. The Contractor shall be responsible to see the completed work complies accurately with the Contract requirements. The Contractor shall provide all necessary superintendence during the execution of the Works as per contractual provisions.

- a) 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. Contractor agrees and undertakes that the construction shall be completed within the Project Completion Schedule and any extension of time granted according to the provisions of this Agreement.
- b) The Contractor shall, subject to the provisions of the Contract, and with due care and diligence, execute and complete the Works & remedy any defects therein in accordance with the Contract. The Contractor shall provide all labour, including the supervision thereof, materials, Constructional Plant and

Machineries and all other things, whether of a temporary or permanent nature, required in and for such execution, completion, maintenance and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

- c) The Contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications as given in these documents and also in compliance of the requirements of the local public authorities and to the requirements/ satisfaction/ direction of the Employer's Representative and no deviation of any account will be permitted.
- d) The Contractor shall have to use materials from the makes / manufacturers specified in the list of materials of approved brand and/or manufacture contained in the contract documents and as approved by the Employer's Representative. Wherever different pattern/ Design/ Quality of materials with same specification/ make as specified in the contract, is available in the market, Employer's Representative will approve the pattern/ Design/ Quality of the material/ item which shall be final and binding on the contractor. The contractor shall supply samples of all the materials / fittings / fixtures proposed to be used in the work and obtain approval of the Employer's Representative. These samples shall be retained at site till completion of the work. If subsequently it is found that approved material upon testing does not meet the requirement as specified in the contract the contractor shall get approval of alternate material.
- e) The Contractor shall make provision of hangers, sleeves, structural openings and other requirements during construction to avoid holding up progress of the construction schedule. The Contractor should ensure that the structure is designed for additional loads or cut outs. Subsequent Cutting of holes in the RCC structural members /slab shall not be allowed.

The contract items comprise of furnishing of all materials, equipment, labour & transportation etc. necessary to render the installation/ item fully operational as per the intent of specifications and drawings, including any necessary adjustment or corrections. Further the installation/ item shall be in conformity with local laws and manufacturer's instructions applicable

## **Testing**

Where manufacturers have furnished specific instructions relating to the materials and equipment used, covering points not specifically mentioned in these documents, manufacturer's instructions shall be followed with the approval of Employer's Representative.

The Employer's Representative shall be entitled to inspect, examine and test during manufacturing of the materials and workmanship and check the progress of manufacturing of all fabrication materials to be supplied under the contract on the contractor's premises during working hours, and if part of the said materials is being manufactured on other premises, the contractor shall obtain Employer's

Representative permission to inspect the same at such premises. This inspection, examination or testing shall not relieve the contractor from any obligation under the contract. Inspection Call for any equipment shall be given 15 days in advance from the actual date of Inspection.

In case of other equipment, the Contractor shall intimate Employer regarding their readiness so as to decide their inspection if any.

The Employer's Representative reserves the right to request inspection and testing at manufacturer's Works at all reasonable times during manufacture of items for this Contract.

The Employer's Representative or his authorised representative shall have full power to inspect the materials and workmanship at the Contractor's Works or at any place from which the materials or equipment is obtained. Approval by the Employer's Representative of any material or equipment shall in no way relieve the Contractor of his responsibility for meeting the requirements of the specifications. The cost incurred towards boarding, lodging etc. (Inland/ abroad) of inspection engineer/ engineers deputed by Employer shall be fully borne by the contractor & all such costs shall be deemed to be included in the Bid. Nothing extra shall be paid on this account whatsoever. The inspection and testing shall cover, but not limited to, the following: -

- I. Routine and typical tests for the various items of equipment shall be performed at the Manufacturer's/ Contractor's Workshop in the presence of Employer's Representative or his authorised representative, results recorded and test certificates issued.
- II. After installation has been virtually completed, the Contractor shall carry out under the direction and in the presence of the representative of the Employer's Representative such tests and inspections as have been specified, or as considered necessary to determine whether or not the requirements of the item, drawings and specifications have been fulfilled. In case the work does not meet the full intent of the drawings and specifications and further tests after making require changes and as considered necessary shall be done again, the Contractor shall carry them out and bear the expenses thereof. If tests fail to demonstrate the satisfactory nature of the installation or any part thereof, then no claims for the extra cost of modifications, replacement or retesting will be considered. The decision of the Employer's Representative shall be regarded as final as to what constitutes a satisfactory test.
- III. The Contractor shall provide all necessary instruments such as Theodolite, Dumpy level, steel tapes, weighing machine, plumb bobs, spirit levels, hammers, micro-meters, thermometers, hydraulic cube testing machine, smoke test machine and labour, etc. for conducting tests. All such equipment's shall be tested for calibration by an approved laboratory. The Contractor shall make adequate records of the test procedures, readings and results to be maintained by the Employer's Representative who shall issue test certificates signed by the person authorised by him.

- IV. The Contractor shall arrange all necessary instruments, tools, tackles and testing facilities free of cost for such inspections. Contractor shall arrange for inspection visit(s) and bear all inspection costs including Inland/ abroad travel (Air/Rail/Road), lodging and boarding expenses etc. free of cost for the Inspection Engineer(s) deputed by Employer.
- V. The above general requirements as to testing shall be read in conjunction with any particular requirements specified elsewhere.
- VI. Dates for Inspection & Testing: The dates of Inspection & Testing, after receipt of written request by the Contractor, shall be mutually agreed by the Employer's Representative and the Contractor.
- VII. Facilities for Testing at Manufacturer's Works.

Where the Contract provides for tests on the premises of the contractor or of any sub-contractor the contractor shall provide such assistance, labour, materials, electricity, fuel, stores, apparatus and instruments as may be required and as may be reasonably demanded to carry out such tests.

- I. Rejection: If as a result of such inspection, examination or test of the works (other than a Test on Completion the Employer's Representative shall decide that such material is defective or not in accordance with the contract he shall notify the Contractor accordingly stating in writing his observations and reasons thereof. The Contractors shall with due diligence make good the defect and ensure that the material complies with the Contract. Thereafter, if required by the Employer's Representative, the tests shall be repeated under the same terms and conditions till satisfactory results are made available.
- II. Delivery of Materials and Equipment: The Contractor shall be responsible for all materials and equipment brought at site for the purposes of the contract. Unless the Employer's Representative directs, no material shall be brought to the site which is not required for execution of the work.
- III. Inspection & Testing and Re-inspection: All deficiencies revealed by testing and inspection shall be rectified by the Contractor at his own expense and to the satisfaction and approval of the Employer's Representative. Rectified components shall be subject to re- testing till desired results are obtained.
- IV. Delayed Tests: If the Employer's Representative opines that Tests on Completion are being delayed by the Contractor, the Employer's Representative may by notice require the Contractor to carry out such Tests within 14 (fourteen) days after the receipt of the notice. The Contractor shall carry out such Tests on such day or days as the Contractor may fix and of which he shall give notice to the Employer's Representative.

- V. If the Contractor fails to carry out the Tests on Completion within 14 (fourteen) days, the Employer's Representative may proceed with such Tests at the risk and cost of the Contractor. The Tests on Completion then shall be deemed to have been carried out in the presence of the Contractor and the results of such Tests shall be accepted as accurate.
- VI. Inspection Reports: The Contractor shall provide the Employer's Representative with five copies of reports of all inspection and tests.
- VII. Persons nominated by Employer's Representative shall at all reasonable times have free access to work and/ or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall extend necessary service to Employer's Representative and their representatives every facility necessary for checking measurements, inspection and examination and test of the materials and workmanship.

#### **1.2.4 SCOPE OF WORK AND STANDARDS FOR O&M**

O&M activities involved in Silent Valley Sun Bath Park, Walkways, RCC Bridge, Corporation Land and Beach area shall be but not limited to:

- a) Cleaning and upkeep of features such as Façade and Vertical Glazing, Pillar, Roof Top, High Ceiling, STP, Equipment, flooring, LED screens, CCTVs, IT equipment etc. provided as per the scope of work
- b) Cleaning and upkeep of entrance pavilion etc.
- c) Cleaning and upkeep of exterior in all aspects.
- d) Cleaning and upkeep of Walkways and RCC Bridge
- e) Cleaning and upkeep of Beach area
- f) Complete cleaning and upkeep of interior spaces, building exterior wall, glass panes with pest control which includes but not limited to rodents, cockroaches, mosquitoes etc. in brief all built up spaces and open spaces are part of scope of work.
- g) Cleaning of couches, chairs, furniture and other elements
- h) Complete Collection & Transportation of waste from site in compliance with the guidelines of Pollution Control Board and applicable laws.
- i) Cleaning and upkeep of all toilets at all areas.
- j) Cleaning and upkeep of staircase and all passage/corridor.
- k) Cleaning and upkeep of Electrical Control Room, Charger & DCDB Room, Battery bank room, D G Set room at all areas.
- l) Cleaning and upkeep of Attendant Room, chiller room if any
- m) Cleaning and upkeep of Fire Water Tank, Non-Potable water tank and Potable Water Tank in all aspects.
- n) Cleaning and upkeep of all floors along with exterior of Utility Building in all aspect including but not limited to doors, window, flooring, façade/glazing work, equipment, cladding work, ceiling and shaft openings etc.
- o) Cleaning and upkeep of all area such as parking area, pergola, tensile roof, parking covering, open air theatre, flooring, internal road cleaning, cladding work, GRC work, manhole covers, colonnade structure, pedestrian street, water bodies, pedestrian street gates, security cabins, main entrance gates, compound wall, paver work along the external roads and removal of debris from the project site etc.

- p) Watering, maintenance, cleaning of trees, shrubs, grass and landscaping shall be done by the Contractor and water shall be provided by the Authority. Dead plants and trees shall be replaced after approval of the Authority.
- q) Rectification of Civil, Electrical, Mechanical, Plumbing and other associated works as per the scope.

#### **1.2.4.1 STANDARD SPECIFICATION:**

##### **A. Colour code system:**

- r) Red - Used for cleaning W/c and urinals, rectification of Civil, Electrical, Mechanical, Plumbing and other associated works as per the scope.
- Yellow - Used for cleaning wash basin, tiled wall, furniture and fittings inside of washroom.
  - Green - Used for cleaning glass in all areas.
  - Blue - Used for general purpose of cleaning in all areas except inside of washrooms

##### **B. Cleaning standard specifications**

<b>S. No.</b>	<b>Building Elements</b>	<b>Required Cleaning Standards</b>
1.	External features, fire exits and stairwells Handrails are clean and free of stains	Landings, ramps, stairwells, fire exits, steps, entrances, porches, balconies, eaves and external light fittings are free of dust, grit, dirt, leaves, dusts, rubbish, cigarette butts and bird excreta. Garden furniture is clean and operational.
2.	Walls, skirting's and ceilings	Internal and external walls and ceilings are free of dust, grit, dirt, lint, soil, film and dusts. Walls and ceilings are free of marks caused by furniture, equipment or staff. Light switches are free of fingerprints, scuffs and any other marks. Light covers and diffusers are free of dust, grit, dirt, lint and dusts. Polished surfaces are of a uniform lustre. Fabric wall surfaces should be free from dust, grit, dirt, lint soil, stains and dusts.
3.	Windows	Surfaces of glass internal and external are clear of all streaks, spots and marks, including fingerprints and smudges. Window frames, tracks and ledges are clear and free of dust, dirt, grit, marks, spots and dusts.

S. No.	Building Elements	Required Cleaning Standards
4.	Doors	Internal and external doors and doorframes are free of dust, grit, dirt, lint, soil, film, fingerprints and dusts. Doors and door frames are free of marks caused by furniture, equipment or staff. Air vents, relief grilles and other ventilation outlets are kept unblocked and free of dust, grit, dirt, soil, film, dusts, scuffs and any other marks. Door tracks and door jambs are free of grit, dirt and other debris. Polished surfaces are of a uniform lustre.
5.	Hard floors	The floor shall be free of dust, grit, dirt, litter, marks and spots, water or other liquids. The floor is free of polish or other built-up at the edges and corners or in traffic lanes. The floor shall be free of spots, scuffs or scratches on traffic lanes, around furniture and at pivot points. Inaccessible areas (edges, corners and around furniture) are free of dust, grit, dirt, lint and spots. Polished or buffed floors are of a uniform lustre. Appropriate signage and precautions are taken regarding pedestrian safety near newly cleaned or wet floors.
6.	Soft floors	The floor shall be free of dust, grit, dirt, litter, marks and spots, water or other liquids. The floor shall be free of stains, spots, scuffs or scratches on traffic lanes, around furniture and at pivot points. Inaccessible areas (edges, corners and around furniture) shall be free of dust, grit, dirt, lint and spots.
7.	Ducts, grills and vents	All ventilation outlets are kept unblocked and free of dust, grit, dirt, soil, film, dust, scuffs and any other marks. All ventilation outlets are kept clean and uncluttered.
8.	Electrical fixtures and other appliances	Electrical fixtures and appliances are free of grease, dirt, dust, encrustations, marks, stains and cob webs. Electrical fixtures and appliances are kept free from signs of use or non-use. Only outside surfaces of electrical and ELV fixtures shall be cleaned. Hygiene standards are satisfied where the fixture or appliance is used in food preparation.



S. No.	Building Elements	Required Cleaning Standards
9.	Toilets and bathroom fixtures	Porcelain and plastic surfaces are free from smudges, smears, body fats, soap build-up and mineral deposits. Metal surfaces, shower screens and mirrors are free from streaks, soil, dirt, smudges, soap build-up and oxide deposits, Wall tiles and wall fixtures are free of dust, grit, dirt, smudges/ streaks and mineral deposits.
10.	General tidiness	The area appears tidy and uncluttered Floor space shall be clear. Furniture is maintained in a way that allows for cleaning. Fire access and exit doors are left clean and unhindered.
11.	Odour control	The area should smell fresh. There should not be any odour that is distasteful or unpleasant. Amenity rooms, toilets and other rooms shall be cleaned and functional.
12.	Pest Control	Regular pest control which includes but not limited to rodents, cockroaches, mosquitoes, insects, etc. should be carried out as per IS-6313.
13.	Vegetation Area /Forest area/ Hard landscape/ Soft Landscape	Vegetation area needs to be watered. Cutting of wild vegetation, weed removal, provision of fertilizer, etc. should be done.
14.	Rectification works (Civil, Electrical, Mechanical, Plumbing and other associated works as per the scope.	All rectification works shall be done as per the time frame

### **C. Machinery, Equipment & Consumables**

The Contractor shall assess the requirement of cleaning materials like chemicals, consumables, tools, garbage bin liners, restroom toiletries etc. required for the cleaning and maintenance services. It should maintain sufficient stock of the materials. The procurement of the materials, its storage and maintenance is in the scope of the Contractor. The cleaning materials to be used shall be approved by the Authority.

### **D. Waste Disposal**

The Contractor shall collect and transport garbage & rubbish from the site to designated Waste Collection Points in accordance with the applicable laws and as per specified Trash Segregation standards. In case of violation the Authority shall have the right to impose the work penalty upon the Contractor.

The Contractor shall segregate recyclable and non-recyclable trash as part of good environmental practice. Breach of such practice shall lead to penalties or written admonishments based on the magnitude of the problem.

#### **E. Automated Public Grievances System**

The Contractor shall put into place an automated call system as a part of Public Grievances. This automated system shall allow users/ tourists to put grievances in various categories such as Civil works, MEP works, cleanliness or other works through an automated recording system and weekly electronic log shall be submitted to the Authority. This call shall also aim to record the applicant's feedback including, but not limited to, the quality of redressal and suggestions for improvement with respect to redressed grievances.

If the applicant records response as unsatisfied with the redressal, it shall be given an option to escalate the grievance. If the applicant agrees, the system shall mark the grievance as escalated and forward it to the Authority.

### **1.2.4.2 QUALITY CONTROL & PERFORMANCE MANAGEMENT**

#### **A. Uniforms**

The Contractor in consultation with the Authority shall finalize the uniforms. The Contractor shall provide 03 sets of approved uniforms yearly to all its employees and shall ensure that its employees are wearing neat and clean uniform while on duty. Additionally, the Contractor shall provide safety gadgets like Reflector Jacket, gum boot, rain coat, hats etc. to staffs based on their location and condition of work.

#### **B. Training - Task Performance Skills**

The Contractor shall be responsible for carrying out and providing periodic and daily skills training to perform daily tasks. No staff shall be allowed to perform any task unless they are completely trained and competent enough to perform the assigned task. In addition to initial training as mentioned above, the Contractor shall be responsible to provide refresher training to its employees at minimum 1day per quarter to each employee and the Contractor shall submit the proof for the same to the Authority.

The Contractor shall be responsible for training those topics to all its employees without any additional cost to Authority.

#### **C. Removal of Workmen**

The Contractor finds that any of its employee deployed at the site is not competent to perform or discharge the assigned job, it agrees to remove such employee immediately and agrees to replace with better skilled employee immediately. Further, the Contractor agrees to replace employee who is involve in any misconducts or violated the security norms.

#### **D. Customer Feedback & Corrective Action**

The Authority can implement various tools for obtaining feedback from Tourists/ users or Automated system may be used to track the record of feedback. Based on the Customer feedback (complaints or requests), the Contractor shall be expected to resolve the same immediately up to the set standards. The Contractor shall be required to put into place a Corrective action plan on the basis of Tourists feedback report and ensure that similar complaints do not recur in future.

The Contractor shall be required to ensure the effectiveness of corrective action and any additional changes required to be incorporated in the system shall be borne by the Contractor. For each negative feedback received towards the Maintenance Services shall attract penalty.

#### **E. Helpdesk for Performance Monitoring**

The Authority may implement Helpdesk for monitoring complaints related to various services.

#### **F. Replenishment of Consumables & Supplies**

In the event of non-availability of materials/ supplies / consumables, the Contractor shall ensure the replacement of supplies within 24 hours and provide justification for failure.

#### **G. Operation & Maintenance of Machinery, equipment etc**

In the event of any cleaning machine or equipment does not function to its desired output or it become unserviceable due to mishandle/ misuse by employees, the Contractor shall rectify the machine/ equipment within the specified timeline.

#### **H. Waste Collection & Transportation:**

The Contractor shall empty waste bins and ensure the litter level is kept less than 75% of the bin. The Contractor shall be responsible for collection of waste from all areas to the Primary Collection Point. No waste bin shall be left unattended till it 100% full or overfull.

#### **I. Quality Management Summary**

The Contractor shall ensure quality work in a planned and time bound manner. Any substandard material and / or work beyond set out tolerance limits shall be summarily rejected by the Authority.

If the Maintenance Services rendered by the Contractor are not up to the standard as detailed under scope of work, the same shall be brought to the notice of the firm with a view to improve the same in a stipulated period. Alternatively, Authority shall take necessary action as per the provisions of contract.

Authority reserves the right to immediately step in and carryout a part or whole of the work entrusted under this contract in case of any default or unsatisfactory performance by the Contractor without resorting to the formalities of issuing notices,

etc. for rescinding the contract and the Contractor would have no claim for compensation in such cases

#### **1.2.4.3 INTERNAL AUDITS ON SERVICE QUALITY EVALUATION (IQA):**

Periodic audits will be carried out by Authority or quality audit companies employed by Authority. The results of the Authority satisfaction survey also will be an input for final quality evaluation.

All observations will be quantified and notified to the Contractor for corrective actions. The Contractor shall take timely corrective actions to ensure all observations are resolved within the stipulated time frame. The following are the areas and marks where the audit shall be carried out.

- a) Quality of Work
- b) Cleaning & Housekeeping
- c) Machine Operation
- d) Supervision
- e) Quality of Employee/ staff of the Contractor
- f) Skill/ Knowledge on work
- g) Uniform and Appearance
- h) Personal Hygiene
- i) Awareness on Security Requirements
- j) Behaviour with Authority
- k) Compliance to Work Schedules
- l) Compliance to Work Procedures
- m) Regular Attendance of Workers/ Guards
- n) Submission of Report on time
- o) Attendance Report for Shift
- p) Assignment Report for Shift
- q) Work Completion Report for Shift

The Contractor shall be responsible to achieve the target service levels.

#### **1.2.4.4 SERVICE LEVEL INDEX**

##### **A. Target Service Quality Level**

Key Performance Indicator (KPI)	Minimum Service Level	Target Service Level	Maximum Service Level
Overall Score related to the scope of Maintenance Service	4 out of 5	4.5 out of 5	5 out of 5

##### **B. Forfeitures for not achieving Target Service Quality Levels:**

1. Every 0.1 or part thereof reduction from each target service level as mentioned in above table respectively will attract a penalty of 0.1% of the monthly quoted amount or ₹ 5,000/- whichever is higher.

2. Every 0.1 or part thereof reduction from each minimum service level as mentioned in above table respectively will attract penalty of 0.2% of the monthly quoted amount or ₹ 10,000/- whichever is higher. This is subjected to a maximum value of 10% of the monthly gross bill value.

**C. Performance linked Incentives for exceeding Target Service Quality Levels:**

Authority may, in its absolute discretion, pay the Contractor a performance Incentive calculated in accordance with below conditions:

1. For every 0.1 exceed from each targeted serviceability level as mentioned in above table respectively, ₹ 5,000/- will be paid as incentive to the Contractor. This is subjected to a maximum value of 5% of the monthly net bill value.
2. For every 0.1 exceed from each maximum serviceability level as mentioned in above table respectively, ₹ 10,000/- will be paid as incentive to the Contractor. This is subjected to a maximum value of 5% of the monthly net bill value.

**1.2.4.5 PENALTIES**

The following penalties/ cost compensation will be imposed on the Contractor for unsatisfactory performance or poor Maintenance Services to the prefixed service level indices.

**A. For negative Authority / Tourists/ Users feedback**

10 penalty points for each negative feedback received towards the Maintenance Services scope.

**B. For Complaint/ Ticket Raised at Helpdesk:**

The Maximum acceptable number of complaints for the Maintenance Services is 50 nos. For each complaint thereafter exceeding the target quantity shall attract 10 penalty points.

**C. Time Frame for Resolving Complaints:**

Timeline for Resolving complaint is setout in GBD. Failing which shall attract 5 penalty points per occurrence.

**D. For absenteeism, uniform & behaviour of employees:**

The Contractor shall be responsible for deploying the required staff, employees etc. for the due performance of the scope of services and in case any of the employees are absent on a particular day/ shift, the Contractor shall immediately deploy equally qualified or trained or better trained employee/staff and if the Contractor fails to comply with this clause, Authority shall have the right to impose penalty as mentioned below.

Standards	Measures	Penalty Points
Workforce Quantity	Short deployment from the agreed number of workforces for deployment >95%  Short deployment from the agreed number of workforces for deployment <95%	5 points per man-day  10 points per man-day
Staff missing from work area	Each time staff missing from assigned area without any justification	5 points per staff
Uniform	Each time staff on duty found not in full or proper uniform.	5 points per staff
Skillset	Deployment of each unskilled workforce.	10 points
Incident	Each incident engaging inappropriate behaviour of contract staff like gossiping in a group, using employs belonging, misusing Authority's properties, consuming alcohol etc.	10 points
Security violation	Each time staff committing security violation like theft, manhandling etc.	25 points

**E. For not complying with Task Completion Report:**

- In the event of Contractor fails to complete schedule tasks approved by Authority shall attract 10 penalty points.
- This penalty may be ineffective for respective event, if Contractor provides proper justification for noncompliance that out of it's reach.
- The Contractor shall submit MIS reports on weekly, monthly basis to the Authority on Workforce Deployment, Scheduled Task Completion, Rectification done etc. Failing which shall attract penalty (Weekly – 10, Monthly – 25) points.

**F. For not following Colour Code System:**

The Authority set Colour Code standard specifications to avoid any accidents. In the event of contractor staff not following the colour codes while cleaning/ rectifying shall attract 5 penalty points for each occurrence.

**G. For not complying with Waste Collection & Transportation procedure:**

In the event of any waste bin found overfull / trash present outside the bin 5 penalty points will be applicable for each occurrence.

**H. For unavailability of Consumables & Supplies in Restrooms:**

In the event of non-availability of supplies / consumables in restrooms, the Contractor shall ensure the replacement of supplies within 24 hours and provide justification for failure. Failure of each occurrence due to contract staff's negligence shall attract 5 penalty point.

#### **I. For unavailability of Machinery & Equipment for the Service:**

The Contractor shall ensure all machine and equipment are made serviceable at all time. If any machine or equipment does not function to its desired output, the Contractor shall rectify the machine/ equipment within the specified timeline. Each time the Contractor fails to repair defective machine/equipment in stipulated time shall attract 5 penalty points per day.

#### **J. For usage/ supply of substandard materials:**

The Contractor shall submit the list of materials like chemicals, tools, consumables, garbage bin liners, restroom toiletries etc. with the technical specifications and committed quality levels. In case the Contractor or its representatives are found using substandard materials such as torn/ wornout materials, materials not meeting committed quality levels etc. shall attract 10 penalty point per occurrence.

In the event of Authority finds the Contractor or its representatives using substandard materials (as above), the Contractor shall replace those materials within a period of 24hours. Failing which shall attract 25 penalty points per day. Penalty Amount shall be computed as mention in table below

<b>S. No.</b>	<b>Penalty Points</b>	<b>Penalty</b>
1	1-50	0.25% of monthly quoted amount
2	51-150	0.50% of monthly quoted amount
3	>150	1% of monthly quoted amount

Note: If Penalty point increase to more than 250 points then for each 100 points additional penalty of 0.50% of monthly quoted amount will be applied.

#### **1.2.4.6 SAFETY GUIDE LINES:**

The Contractor shall follow and comply with the safety code/ guideline as mentioned below and comply with any additional or more safety code (if any) applicable law prescribes or requires. Safety is an individual commitment to incorporate safe work practices into every area of job operations. Hence, the Contractor shall ensure sufficient training is provided to each workforce before assigning any job at site. Below are the safety guidelines that needs

##### **A. Personal Protective Equipment (PPE)**

1. All necessary personal safety equipment as considered adequate by Authority shall be available for use of persons employed on the Site and maintained in a condition suitable for immediate use and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.
2. Identify and provide appropriate PPEs like hand gloves, mask, safety goggles, safety harness, gum boots, anti-skid shoes, rain coat, hat, cap, reflective jacket etc. that offers adequate protection to the worker, co-workers, and occasional

visitors for the Maintenance Services without incurring unnecessary inconvenience to the individual.

3. Proper maintenance of PPE, including clean when dirty and replace when damaged or worn out.
4. Proper use of PPE should be part of the recurrent training programs for employees.

#### **B. Caution Sign Boards**

1. Place sign board "Wet Floor" whenever floors are wet due to O&M activities, spills, and rains or otherwise to caution passengers, users until the area is dry.
2. Place sign board "Work in Progress" or "Cleaning in Progress" before starting any major cleaning works, schedule works in places that exposure to passenger and public.
3. Place floor mats at the entrances to buildings or rooms to collect tracked-in rain, dirt etc.
4. Barricade the area in the event of any spills, leaks, rain, major activities etc. which could not be accomplished within a short period to avoid entry of others to affected location.

#### **C. Material Storing:**

1. Store materials in a planned and orderly manner that does not endanger employee safety.
2. Ensure stacks, tiers, and piles are stable and stacked to aid safe handling and loading.
3. Store hazardous materials in accordance with the individual requirements.
4. Keep storage areas free from accumulations of materials that could create a hazard from fire, explosion, or pest infestation.
5. Store all chemical products at eye level or below. If chemicals are splashed into the eye, immediately flood the eye with water for at least 15 minutes.
6. Do not place or store cleaning materials or scrap accumulations that obstruct doorways, electrical panels, fire extinguishers, or fire exits.
7. Liquids and chemicals must be stored in approved containers. Sharp or pointed objects should be stored to prevent persons from coming in contact with them.

#### **D. Material Shifting:**

1. Employees shall not be put at risk of body strains unnecessarily. Supervisors shall assure that all jobs are undertaken in accordance to following guidelines:
2. Lifting equipment (pallet trolleys etc.) will be utilized whenever possible for moving heavy objects or repetitive lifting.
3. Adequate personnel will be assigned to the job dependent upon the weight and size of the material. Repetitive lifting from the floor and twisting will be designed out of the job as much as possible.
4. For moving jobs, the route for carrying material should be as short as possible-avoiding steps, slopes and slippery surfaces, if possible. Employees must be made aware of unavoidable tripping hazards.



5. Frequently used material and heavy-large material in storage rooms will be stored in a location that does not require reaching over something, standing on a ladder or stool to get to, bending to the floor, reaching under something, etc.
6. Loose objects must be contained while being moved.
7. Employees should always lift by bending their knees so that leg muscles are used.

**E. Work at Height:**

1. Obtain permission from Authority before starting any kind of high raise works and notify all concerned stake holders.
2. Suitable scaffolds/Standalone step Ladder/High Access Equipment shall be used for all works that cannot be safely done from the ground.
3. Cordon off the entire area covering parking of access equipment and the actual work area or position of working platform before starting any work to avoid entry of others.
4. Ensure to assign high raise works to workforces they are confident enough, certified to operate Access Equipment, machinery etc. and not scared of height to avoid fatal incidents
5. When a ladder is used an extra laborer shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand-holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to 1 (1/4 horizontal and 1 vertical).

**F. Electricals:**

1. Do not use damaged cable for Power Extension box, use only PVC insulated Flexible cable
2. Use IP 67 Protection (Protection against Dust and water Splash) Power sockets where water leaning take place (Jet cleaning)
3. Do not keep Extension box at top of any Access equipment after completion of work
4. Do not tap off power from any of socket without plug top
5. Do not Use UPS Power Socket for Equipment charging or Cleaning. Use only designated charging points only
6. Any Loose connection or Short circuit observed in the plug socket, inform LSE Duty in charge immediately
7. Do not interchange/remove Plug socket/Plug top of Access equipment to Cleaning equipment.
8. Switch off the Machine/Access equipment totally after parking at designated location and Put for charging
9. Ensure all electrical equipment is disconnected before working on it.

**G. Other General Guidelines:**

1. Conduct regular inspections of your work area including cleanliness of floors, correct storage of equipment, hoses, waste bins are routinely emptied etc.
2. Clean up spills and leaks of any type quickly and properly to avoid slip hazards and pick up all objects that should not be on floor.

3. The Contractor shall ensure that adequate first Aid tools required for the Maintenance Services is available at site. In case of major injury, casualties etc., the nearest hospital or clinic available at site can be contacted.
4. Do not lay extension cords and hoses across doorways or in passages to minimize tripping or obstructions to traffic.
5. Never do anything that is unsafe in order to get a job done.
6. Working under the influence of alcohol or illegal drugs or using them at work is prohibited.
7. The Contractor shall ensure that all site staff are adequately briefed and instructed on fire safety arrangements for the site, Building Evacuation Plan and Safe Assembling Areas before deployment.
8. Safety provisions shall be brought to the notice of all concerned by display on a notice board at a prominent place at the work spot. Persons responsible for ensuring compliance with the Safety Code shall be named therein by the Contractor.
9. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Authority and the Inspecting Officers as defined in the Successful Bidder's Labor Regulations.

### 1.3 MAKES OF MATERIALS

All procurement shall be done in accordance with G.O. No. P-45021/2/2017-PP (BE-II) Government of India, Ministry of Commerce and Industry Department for Promotion of Industry and Internal Trade dated 16.09.2020. Acceptable makes of materials to be used in the work are provided in the table below. In case of non-availability of these makes, the Contractor can request the Employer for the alternative makes of material which are BIS marked only. Non- BIS marked materials may be permitted only when BIS marked materials are not manufactured. The material supplied at site should be strictly corrosion resistant and suitable for seaworthy conditions at all times.

#### CIVIL WORKS

S No	Details of Materials	Approved Makes
1.	Anti-Corrosive Reinforcement Steel	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd. (RINL), Jindal Steel & Power Ltd. and JSW Steel Ltd. The steel must be factory coated as per applicable IS Code. In case of non-availability of these makes, the Contractor may seek approval of client for use of equivalent alternative reputed makes which are BIS approved and manufactured by ISO certified company
2.	White Cement	Birla White, J.K. White, Travancore Cements
3.	Cement	ACC, Ultratech, Ambuja, J.K. Cement, Coromandel, Sankar, RAMCO, JSW In case of non-availability of these makes, the Contractor may seek approval of client for use of equivalent alternative reputed makes which are BIS approved and manufactured by ISO certified company
4.	Anti-Corrosive Tubular truss /Structural Steel	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd. (RINL), Jindal Steel & Power Ltd. And JSW Steel Ltd. The steel must be factory coated as per applicable IS Code
5.	Polycarbonate sheet	GE Plastic, LEXAM
6.	Decking steel sheet	Ezydec of TATA /Lloyd Superdeck
7.	Vitrified tiles	RAK / Kajaria / OrientBell/ Johnson/ Somany/ Nitco/AGL/Cera
8.	Ceramic/Glazed tiles	Somany / Kajaria / OrientBell/ Johnson/ Nitco/ RAK/AGL/Cera

9.	Wooden flooring	Armstrong/ Century ply/ Mikassa/ Green lam
10.	Chemical emulsion for anti-termite treatment (Chloropyriphos emulsifiable concentrate)	Dursban 50 TC / Terrashield 50 TC / Tafaban
11.	Wall Paints Plastic Emulsion, Synthetic Enamel, Exterior waterproofing paint	Berger/ Nippon/ Nerolac/ Indigo/ Shalimar/Jotun/ Asian Paints
12.	Wood Finish PU polish, Wood Primer	MRF/ Berger/ Asian Paints/ Pidilite/ Jotun/ Nerolac
13.	Curing compound	Fosroc/ Sika/ Pidilite/Roff
14.	Anti-Corrosive epoxy paint (For Concrete surface)	BASF/ Fosroc/ Sika/ Asian/ Jotun/ Pidilite
15.	Anti-Corrosive epoxy paint (For steel surface)	BASF/ Fosroc/ Sika/ Asian/ Jotun/ Pidilite
16.	Textured paint	Berger/ Nippon/ Nerolac/ Indigo/ Shalimar/Jotun/ Asian Paints
17.	Toughened Glass	Saint Gobain/ASAHI
18.	Wood Work i. Ply board/ Plywood ii. Laminate iii. Veneer iv. Flush Door (Pine Filled) v. Locks (brass base) vi. Anodised Aluminium fittings for door & windows vii. Door closer (brass base) viii. Floor springs	i. Merino / Green ply / Century / Trojan ii. Merino / Green Lam / Century iii. Merino / Green / Jacwood iv. Merino / Green / Century/ Jacwood/ Kutty v. Godrej/Golden/ Indo brass /Harrison/ Yale vi. Godrej/Golden/ Indo brass /Harrison/ Ebco vii. Godrej/ Golden/ Indo brass /Harrison/ Yale/ Ozone viii. Ozone/ Ebco
19.	Factory pressed Laminated doors	Merino / Green / Century / Kuttys
20.	Fire retardant paint	Nullifier / Signum / Godrej
21.	Steel Fire rated doors	Navair / Godrej / Promat
22.	Wooden Fire rated Doors	Navair / Signum / Abacus
23.	Fire rated vision Panels	Pilkington, Schott, Ferilite, Saint Gobain
24.	Fire rated hardware	Dorma / Becker F S / Assaabloy

25.	Skylight – Thermoform	Mccoey Architectural System, Vergola, Abucob
26.	Steel door frame	Kutty Doors, Shakti Metdoor, Navair, Romat, Synergy Thrislington
27.	Friction Stay Hinges	Earl-Bihari, Ebco, Rotto, Cotswold, GU, Dorset
28.	Steel Windows/ Pressed Steel frames	San Harvic, Steelman Industries, PD Industries, Metal Windows, Bhawani / Ganpati Udyog (Rajpura) / JMD Steel/ TATA Parvesh
29.	Paver block & Kerb Stone	Nitco, Unitile, NTC, Ultra
30.	Glass Mosaic Tiles	Italia / Opio / Mridul
31.	Wood Adhesive	Jivanjor / Fevicol(Pidilite) / 3M
32.	Tile Adhesive	ARDEX Endura / Fibrex / Pidilite / BASF
33.	Grouting Compound	ARDEX Endura / Pidilite / Laticrete / BASF / Fibrex
34.	Mosaic tiles	NITCO / Modern / NTC / GICO
35.	Dash/Anchoring FASTENERS	HILTI / Fischer / Excel
36.	High performance Epoxy based resin anchor system	BASF / Fosroc / Fibrex
37.	Nuts/ Bolts & Screws (anti-corrosive)	GKW / Atul/Sundream Group
38.	Dholpur / red sand stone	Gang saw cut from Bansi Paharpur Quarry
39.	Aluminium sections for doors & windows etc.	Jindal / Hindalco
40.	Hardware fittings for Aluminium windows & doors	Powder coated fittings of Pulse make (LGF SYSMAC INDIA)/ ALUTEC/ Dorma/ Dorset/ Ozone
41.	Polyester Powder Coating Shades	Nerolac/ Berger/ Jotun/ J & N
42.	Metal ceiling (anti-corrosive)	Hunter Douglas/ Aura (ASIPL)/ CKM/ Amstrong/ JSW
43.	Mineral Fibre Ceiling	Armstrong / OWA / CKM
44.	Extruded Polystyrene sheet (XPS)	Dow Corning / Supreme
45.	Aluminium Composite Panel	ALUCOBOND / REYNOBOND / ALPOLIC
46.	Specialised agencies for Aluminium glazing /	Bharat Archimetal / Green Façade Solution / AGV Alfab

	Structural glazing / Aluminium door & windows / ACP work	
47.	Silicon sealant	GE / Dow corning
48.	Solvent based silicone repellent coating	Pidilite / Fibrex / BASF
49.	PVC Continuous fillet for periphery packing of Glazing	Roop / Anand / Forex
50.	Backer Rod	Supreme Industries Ltd. Or Equivalent
51.	Anti – static vinyl flooring	ARMSTRONG / TARKETT / FORBO
52.	Anti – static homogeneous PU flooring	BASF / Fibrex
53.	PU flooring	BASF / Fibrex
54.	Float Glass	Modi Glass / Saint Gobain Glass
55.	Reflective Glass	Saint Gobain / Asahi (India)
56.	Glass processor for making DGU/ Toughening (with Uniglass European Furnance)	AIS (Roorkee) / Sheesh Mahal Tuff Glasses Pvt. Ltd. (Rohtak) / Bala ji safety glass (Bangalore) / Fishwa Glass (Mumbai)
57.	Looking glass / mirror	Saint Gobain / HNG / Modi Guard
58.	Vertical / Venetian Blinds	Mac Décor / Vista Levealor / Neha's Touch / Cape Décor
59.	Stainless Steel Railing, Accessories etc	Jindal / Dorma / Geze
60.	Gypsum Board	India Gypsum / Lafarge Boral/ Asian
61.	Pre-coated Galvanised sheets	Multicolor / Interarch/ JSW/ Jindal
62.	Wall Putty	JK / Birla / Berger/ Asian
63.	Floor hardener	PIDILITE / Fosroc / Sika / BASF / Fibrex
64.	Polysulphide Sealant	PIDILITE / Fosroc / Sika / BASF / Fibrex
65.	Specialised agency for expansion joint treatment	M/s Technocrats / M/s Tuff waterproofing Co. / BASF / Fibrex
66.	Admixtures	Fosroc / Fibrex / BASF/Sika
67.	Stainless steel	Jindal/Tata/RSNL/SAIL
68.	Aluminium	Hindalco/ Jindal
69.	S. S. Screws/ Bolts	Kundan /Puja / Atul
70.	Dash Fasteners	Hilti /Fischer
71.	E.P.D.M. Gaskets	Hanu Industries / Roop

72.	Weather Silicon	GE / Dow Corning
73.	Structural Sealant	GE / Dow Corning

### **ELECTRICAL WORK**

<b>S.No.</b>	<b>Description</b>	<b>Approved Makes</b>
1.	PVC flexible Copper Wires (FRLS / HFFR)	Polycab / Havells / RR Kabel
2.	UPS	Legrand / DELTA / Socomec/ Microtek
3.	Cable gland	Dowells / Comet / OBO Betterman / Polycab / Cape
4.	Capacitors	Schneider / ABB / Seimens/ Shreem / L&T
5.	Ceiling Roses/angle Batten	Precision/ Anchor / Legrand / Polycab/ MK
6.	Contactors	ABB / Schneider / Legrand / Siemens/ L&T
7.	Crimping Sockets	Dowells / Jaison/ Comet
8.	Current transformer	PGR Power / Kapco Elec.Pvt.Ltd / Kappa / Legrand / Intrans / Schneider
9.	Horizontal & Vertical Distribution Boards (DBs)	Legrand / Schneider / Hager / ABB/MK/ L&T
10.	HT, LT & Control Cables	Polycab / Havells / KEI/ RR Kabel
11.	HT Cable Termination Kit, [Heat shrinkable type]	Raychem / M-Seal / Tropodur
12.	Battery & Battery Charger	Exide / Amaron / Amar Raja
13.	Indicating Meters	AE/ Elmeasure/ Schnider/ ABB/ Seimens/ Legrand
14.	Isolator / SFU / COS	L&T/ ABB / Siemens / Legrand / Schnider
15.	External Lightning Protection / Structural earthing	OBO Betterman / Cape / Legrand / L&T/ Schnider/ Seimens
16.	Surge Arrestor	OBO Betterman/ Cape/ Legrand/ L&T/ Schnider/ Seimens
17.	MCB, RCBO, RCCB & other modular DB switchgears	Legrand / ABB / MK/ Havells
18.	ACB	ABB (E-Max) / Schneider (NW)/ Seimens (3WL) / Legrand (DMX3 MP6) / L&T (Omega)
19.	MCCB (Microprocessor based)	ABB (T Max) / Schneider (NSX)/ Legrand (DPX3) / L&T (D Sine) / Wipro
20.	MCCB (TM Based)	ABB (T Max) / Schneider (Compact NSX) / Legrand (DPX3) / Seimens (3VA) /L&T (DU)

21.	Metal Clad Sockets / IP67 socket / Car charger	LEGRAND / Schneider/ Havells
22.	Multifunction Meters / DIN Rail meters	Schneider / ABB / Seimens /L&T
23.	PVC Conduit	Balco / Finolex / Supreme / Polycab / Toms / Precise
24.	HT BIDIRECTIONAL TOD Meter	KSEB approved make
25.	Relay & Controls	Areva / Siemens / GE / ABB / Schnider / L&T
26.	Switches / Sockets / Mouting box, cover plate, baseplate / Pop up box etc	Legrand (Myrius) / Honeywell (Horizon) / Schneider (Cencelo)
27.	Ceiling Fan / Exhaust Fan	Crompton / Usha / Havells / Bajaj/ Orient/ Atomberg
28.	LT Panel (Fully Type tested panels)	ABB (ArTu K) / Schneider (Block Set) / L&T (Ti) / Seimens (Siepan) / Rittal (Tech7 / Bharath Engineering) /Legrand
29.	LT Panel (Partially type tested panels)	ABB / Schneider / L&T / Seimens / Rittal (Tech7 / Bharath Engineering) / Legrand
30.	LT Panel / Panel Enclosure (Remaining panels)	CPRI Approved Manufacturers / Rittal
31.	Lighting controls (All Sensors)	Crabtree (Havells) / Honeywell / Philips / Wipro / GM/ ERCO/ LT/ GE/ Bajaj
32.	Light Fixtures	Phillips / ERCO/ LT/ GE/ Bajaj
33.	SMDB	L&T/ Seimens / Legrand
34.	Transformer	ABB (Hitachi) / KEL
35.	DG Set Engine	Mitsubishi / Cummins / MTU / Caterpillar / Volvo Penta / Kirlosker
36.	DG Set Alternator	Stamford / Leroy Somer / Kirloskar
37.	Cable Tray	Legrand / OBO Betterman / Indiana
38.	Synchronization relay	DEIF/ KSEB approved
39.	Rubber Mat	Electromat / Safevolt
40.	Rising Mains / BBT/ Tapp off / Plug In Box	Legrand / Schnider /L&T
41.	HT Panel (Factory Manufactured / Built)	Siemens / ABB / L&T / Schneider
42.	PLC / UNCO / Breaker interface	Seimens / L&T / Schneider / ABB



43.	Quick spot fire protection	Ceasefire / Minimax / Safex
44.	Fire resistant mortar, bandage, fibre plate, pipe sleeves, ablation coating etc	OBO Betterman / Hilti
45.	ATS (Automatic transfer switch with controller)	ASCO, KOHLER, Caterpillar, Russel electric
46.	Street Light Fixtures or Poles	Philips, Kesselec, Neri

### **PLUMBING WORK**

<b>S.No.</b>	<b>Item Description</b>	<b>Approved Makes</b>
1.	Sanitary wares	Hindware/ Parryware/ Johnson/ Jaquar/ Kohler
2.	Sanitary Fixtures: Wash basin/ Sinks / kitchen sink	Hindware/ Parryware/ Johnson/ Jaquar/ Kohler
3.	Bath Fittings/ CP Brass Fittings: Pillar cocks, Bib Cocks /Stop cock/ /bottle trap / heath faucet/concealed stop cock/ Angle valve	Hindware/ Parryware/ Johnson/ Jaquar/ Kohler
4.	Bath room accessories: Towel Rack, rail, ring/ soap holder, disk / paper holder	Hindware/ Parryware/ Johnson/ Jaquar/ Kohler
5.	PVC Soil, Waste water & Rainwater Pipes & fittings	Supreme / Finolex/ Astral
6.	UPVC Soil, Waste water & Rainwater Pipes & fittings	Supreme / Finolex/Astral / Ajay / Prince
7.	UPVC / CPVC / PVC pressure pipes/ Low Noise drainage pipes	Supreme / Finolex/Astral / Ajay / Prince
8.	Butterfly valves/Ball Valves/Non return valves/Automatic Air release valves/ Strainers/ Pressure reducing valves/	Leader / Zoloto / RB / SKS/ Advance / Castle / Sant
9.	CI / DI Manholes Covers	KK / NECO/ ARECO / BIC
10.	G.I Clamps and Fixing accessories	Hi-tech/ Hilti / Fixotech
11.	Mirror	Modi/ Saint Gobain
12.	Pumps	Kirloskar/Lubi/Xylem/Grundfos/KSB/Wilo

13.	Variable Frequency Drive	Danfoss / Emerson/ ABB / Yaskawa / Siemens / Honeywell
14.	Concealed Flush Tank	Geberitt /Kohler/ Grohe/ Cera/ Viega
15.	PVC Floor Traps, Gully Traps	Supreme / Vectus
16.	Electric Water Heaters	A.O Smith/ Ariston/Racold/V-Guard
17.	SS Gratings for Floor Traps	ACO / Chilly
18.	Gratings for Rain Water Channel	ACO / NECO
19.	Rain water outlet	NECO / WADE/ACO
20.	Water meter (Mechanical Type)	Capstan/Anand/Kranti
21.	Level Controller (Water)	Minilec / KVB
22.	Level indicator (Water)	Minilec / KVB
23.	Flow Switch	Honeywell, Johnson, Siemens
24.	Thermal Insulation	Armaflex/ K Flex/Aeroflex
25.	Automatic Hand drier	Kopal / Blue circle / Novatech
26.	Pressure gauges	H Guru/ Waaree/ Baumer / Fiebig
27.	Water purifiers	Eureka Forbes/ V-guard/ Blue star/ Kent

## **SOLAR**

<b>S.No</b>	<b>Item</b>	<b>Approved Makes</b>
1.	PV Solar Panels	Polycab /Trina Solar/ Renewsys / Goldi / CanadianSolar
2.	Power Conditioning Unit	Solis/ Growwatt / ABB / Polycab
3.	Surge Protection Device	OBO Betterman/CAPE
4.	Outdoor enclosure	CAPE/Hensel
5.	MCB / MCCB	L&T / Legrand / Schnieder / ABB / Seimens
6.	Cables	Polycab / Bonton cables / Finolex / RR Kabel / Lapp
7.	Conduits	Precision/ Balco/TOMS
8.	Raceways	Obo Betterman/ Profab/MK/ Legrand
9.	Lightning protection &Earthing	OBO Betterman / Cape / Axis Electricals

## **FIRE FIGHTING SYSTEM**

<b>S.No</b>	<b>Item</b>	<b>Approved Makes</b>
1.	Pumps	Kirloskar / LUBI / KSB / Armstrong/ WILO
2.	Motors	ABB / Siemens / Bharat Bijlee / Crompton Greaves / Kirloskar

3.	Diesel Engine	Cummins/Greaves/Caterpillar/Kirloskar
4.	MS / GI Pipes	Tata / Jindal / Sail / Zenith
5.	G.I. & M.S Fittings	Tube weld / Tube Products / Punjab Steel / Bharath Forge
6.	Valves & Strainers	L&T / Intervolve / Zoloto / Advance / Leader / Sant / Kartar / Monsher
7.	Internal / External Hydrant Valve	Minimax / Newage / Monsher / Kartar / Eversafe / Safex / Shah Bhogilal /
8.	Hose Reel	Minimax / Newage / Eversafe / Safex / Shah Bhogilal / Kartar
9.	Fire Hose	Minimax / Newage / Monsher / Kartar / Eversafe / Safex / Shah Bhogilal
10.	Branch Pipe	Minimax / Newage / Monsher / Kartar / Eversafe / Safex / Shah Bhogilal
11.	Fire Brigade Inlet	Minimax / Newage / Eversafe / Safex / Shah Bhogilal / Kartar
12.	Hose Box	NEWAGE /MINIMAX/AAG
13.	Air Release Valve	ATOM/ LEADER
14.	Butterfly Valve	L&T / Intervolve / Zoloto / Advance / Leader / Sant / Kartar / Monsher / Castle
15.	Non Return Valve	L&T / Intervolve / Zoloto / Advance / Leader / Sant / Kartar / Monsher / Castle
16.	Pipe Supports	Hi tech / Chilly / Euroclamp / Gripple /HILTI / OBO BETTERMAN
17.	Pressure Gauge	H Guru/ Waaree/ Baumer / Fiebig / NATIONAL
18.	Fire Extinguisher	CEASE FIRE/ MINIMAX/ SAFEX
19.	Automatic Sprinklers	NEWAGE/ HD/TYCO/Viking
20.	Pressure Switch	Danfoss / Infoss / Viking / Switzer / Schneider / Siemens
21.	Flow Switch	Danfoss / Infoss / Tyco / Siemens / Honeywell
22.	Paint/ Primer	Berger / Jotun/ Asian Paints
23.	Wrapping Coating	Pypkote
24.	Fire Rated Duct Doors /Doors	ARISHTHA/ Shakthi
25.	Water Level Controller	Pumptrol /RMG Automation / Minilec /KVB
26.	Batteries	Exide / Global
27.	First Aid Hose Reel Drum	Newage/ Eversafe/ Safex/ Shah/ Bhogilal
28.	Power & Control Cables	Polycab / Gloster / Terixel
29.	SDFU/SFU With HRC Fuses	L & T / Siemens / Schneider
30.	Sprinkler Flexible Drop Pipe	Tyco / Newage / HD Fire / Monsher /

	(SS)	Kartar
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## **FIRE DETECTION AND ALARM SYSTEM**

<b>S.No</b>	<b>Item</b>	<b>Approved Makes</b>
	<b>Structured Cabling System - Data Passive</b>	
1.	Information Outlets - CAT6/ CAT6A	Legrand, Panduit, Nexans, Schneider, Honeywell
2.	Faceplates	Legrand, Panduit, Nexans, Schneider, Honeywell
3.	Cables - CAT6/ CAT6A/ OFC	Legrand, Legrand, Panduit, Nexans, Belden
4.	Patch Cords - CAT6/ CAT6A/ OFC	Siemens, Legrand, Legrand Panduit, Nexans, Belden
5.	Patch Panels - CAT6/ CAT6A/ OFC	Siemens, Legrand, Legrand, Panduit, Nexans, Belden
6.	Racks	Rittal, Netrack, President
	<b>Structured Cabling System - Voice Passive</b>	
7.	Information Outlets - CAT6/ RJ11/ CAT5E	Legrand, Panduit, Nexans, Schneider, Honeywell
8.	Faceplates	Legrand Panduit, Nexans, Schneider, Honeywell
9.	Cables - CAT6/ CAT5E	Legrand Panduit, Nexans, Comscope, Belden
10.	Multipair Cables - 2/10/20/50/100 Pair	Legrand, Panduit, Nexans, Comscope, Belden
11.	Patch Cords - CAT6/ CAT5E	Siemens, Legrand Panduit, Nexans, Comscope, Belden
12.	Patch Panels - CAT6/ CAT5E	Siemens, Legrand, Panduit, Nexans, Comscope, Belden
13.	IDF/ MDF Termination Module	Legrand, Panduit, Nexans, Krone, Besenet
	<b>IT - Active</b>	
14.	Network Switches	HP, Cisco, Juniper
15.	SFP Modules	HP, Cisco, Juniper
16.	Wireless Access Points	HP, Cisco, Juniper, Ruckus,
17.	Wireless Controller	HP, Cisco, Juniper, Ruckus.
	<b>Surveillance System</b>	
18.	IP Cameras	Honeywell, GVD, Bosch, Hikvision (Project series)

19.	NVR/ Video Management System	Honeywell, GVD, Bosch, Hikvision (Project series)
20.	Workstations	IBM, Dell, HP
21.	Display	Panasonic, Samsung, LG
22.	Storage	Seagate, HP
	<b>Access Control System</b>	
23.	Door Controllers	HID, Honeywell, Schneider, Seimens
24.	Card Readers	HID, Honeywell, Schneider, Seimens
25.	Software	HID, Honeywell, Schneider, Seimens
26.	EM Locks/ Exit Switches/ Glass Break/Locks/Brackets, Door Loop etc	Faradays, BEL, Algatec
27.	Cables	Bonton Cables, Polycab, Finolex, RR Cable
	<b>Public Addressing System</b>	
28.	Speakers	Honeywell, Bosch, Ahuja, Tyco
29.	Controllers	Honeywell, Bosch, Ahuja, Tyco
30.	Amplifiers	Honeywell, Bosch, Ahuja, Tyco
31.	Call Stations	Honeywell, Bosch, Axis, Tyco
32.	Cables	Bonton, Polycab, Finolex, RR
	<b>Telephone - Active</b>	
33.	Phones	Beetel, Panasonic, Avaya
34.	Conduit	Precision, Balco, Supreme, Polycab
35.	Raceways / Cable Tray	Legrand, OBO Betterman, Profab
36.	PBX	NEC, Siemens, Avaya, Alcatel
	<b>IBMS</b>	
37.	Software	Schneider, Johnson Controls, Honeywell, Siemens
38.	Controllers	Schneider, Johnson Controls, Honeywell, Siemens
39.	Temperature Sensors	Schneider, Johnson Controls, Honeywell, Siemens
40.	Pressure Sensors/ Switches	Schneider, Johnson Controls, Honeywell, Siemens
41.	Air Flow Switches	Schneider, Johnson Controls, Honeywell, Siemens
42.	Level Sensors	Filpro, Techtrol, Omicron, Coleman
43.	CO2/ CO Sensors	Schneider, Johnson Controls, Honeywell, Siemens

44.	Humidity Sensors	Schneider, Johnson Controls, Honeywell, Siemens
45.	Cables	Polycab, Finolex, Finecore, Bonton Cables
46.	Conduits	Precision, Balco, Supreme, Polycab
47.	Raceways / Cable Tray	Legrand, OBO Betterman, MK
48.	Workstations	IBM, Dell, HP
	<b>AV System</b>	
49.	Projector	Epson, Canon, Panasonic, Christie
50.	Projector Screen	Dalite, Chief, Draper
51.	HDMI Embedders/ DE embedders	Kramer, Extron, Crestron
52.	HDMI Transmitter/ Receiver	Kramer, Extron, Crestron
53.	Speakers	JBL, Bose, QSC, Tannoy,
54.	Amplifiers	JBL, Ahuja, Crestron, Kramer, Bose
55.	Microphones	Shure, Beyerdynamic, AKG
56.	Displays	LG, Samsung, Sony
57.	Controllers	Kramer, Crestron, Extron, AMX
58.	Touch Screens	Kramer, Crestron, Extron, AMX
59.	DSP	Biamp, Bose, BSS, Sennheiser
60.	Matrix Switchers	Kramer, Crestron, Extron, AMX

### **OTHER ITEMS**

<b>S.No.</b>	<b>Equipment</b>	<b>Approved Makes</b>
1.	Elevator/ Lift	Kone, Schindler, Otis, Johnsons

### **1.4 BRIEF LIST OF DRAWINGS**

<b>S. No.</b>	<b>Brief List of Drawings</b>
1.	Site Layout
2.	Floor Plans (Architectural/ Structural)
3.	Roof Plan (Architectural/ Structural)
4.	Terrace Plan (Architectural/ Structural)
5.	Sections (Architectural/ Structural)
6.	Elevations (Architectural/ Structural)

<b>S. No.</b>	<b>Brief List of Drawings</b>
7.	Landscape Layout
8.	Landscape details
9.	Details of Architectural Elements
10.	3D Views
11.	Site Drainage Layout
12.	Land Development Drawing
13.	Schematic Electrical Drawing
14.	Electrical load calculations
15.	Electrical Layouts and details
16.	Schematic Plumbing Drawing
17.	Plumbing Layout and details
18.	Communication systems drawings and details
19.	Surveillance system layout and details
20.	Signage Layout
21.	Signage details
22.	Specification of materials
23.	Electrical load calculations
24.	Sewerage system design and details
25.	Water supply system design and details
26.	Plumbing schematic diagrams
27.	Plumbing layouts and details
28.	Site storm water drainage Layout
29.	Site sewerage & watersupply system layout
30.	Fire services design & details
31.	Fire services schematic diagram
32.	Fire and safety system layouts

<b>S. No.</b>	<b>Brief List of Drawings</b>
33.	Site fire services layout
34.	Standard installation details of Plumbing, Fire and HVAC system
35.	Specialised system design & details (WTP, RO plant, STP etc)
36.	Solid waste handling system details
37.	Fire and safety system layout
38.	Other structural details
39.	Specification of materials
40.	Any other drawings as per the scope of work



### 1.5 CONTRACTOR'S REPRESENTATIVE AND KEY PERSONNEL

S. No.	Key Personnel position	Qualification	Experience	Proposed Name
1.	Project Manager	B. Tech/ BE (Civil) with MBA in Construction Management (desirable)	Should have minimum 20 years of experience of which minimum 10 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/ State/	
2.	Deputy Project Manager	B.Tech/BE(Civil)	Should have minimum 10-15 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/ State/	
3.	Deputy Project Manager	B.Tech/BE (Electrical)	Should have minimum 10-12 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/ State/	

<b>S. No.</b>	<b>Key Personnel position</b>	<b>Qualification</b>	<b>Experience</b>	<b>Proposed Name</b>
4.	Deputy Project Manager	B.Tech/BE (Mechanical)	Should have minimum 10-15 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area, covering Civil and MEP works preferably for Central/ State/	
5.	Procurement Specialist	Master's degree in civil engineering, or relevant fields	Should have minimum 10-15 years of experience in procurement for work contract	
6.	HSSE Expert (Health, Safety, Security & Environment)	Graduate in relevant field	Should have minimum 10 years of experience in relevant field	
7.	Project Engineer	B. Tech/ BE (Civil) Or Diploma (Civil)	Should have minimum 5 years for B. Tech/ BE or 10 years for Diploma	
8.	MEP Engineer	B.Tech/BE (Electrical) or Diploma (Electrical)	Should have working experience of minimum 5 years for B. Tech/ BE or 10 years for Diploma	
9.	Quality Engineer	B. Tech/ BE (Civil)	Should have minimum 8 years of experience out of which 5 years in Quality supervision	

<b>S. No.</b>	<b>Key Personnel position</b>	<b>Qualification</b>	<b>Experience</b>	<b>Proposed Name</b>
10.	Structural Engineer	M.Tech in Structural Engineering with B.Tech/ BE (Civil)	Should minimum 10 years of experience (post M. Tech) in designing of Coastal/ River Front structures. Also, should have experience in designing of bridge	
11.	Urban Planner	M. Arch. (Planning)	Should have minimum 10 years of experience of which minimum 6 years shall be in Design and Development of Coastal/ River Front area	
12.	Surveyor	Diploma	Should have minimum 5 years of experience in survey works	
13.	Billing Engineer	B. Tech/BE	Should have minimum 5 years of experience in relevant field	
14.	Site Engineers (Number as per requirement)	B. Tech/Diploma	Should have minimum 5 Years of experience	

**ANNEXURE A**  
**Detailed Project Report**

The DPR is only for reference purpose and the Bidder has to make its own assessment for arriving at the Bid Price based on the scope of the work mentioned in Volume-IV, Employer's Requirement. The Employer is not responsible for any discrepancies/differences within the DPR and/or between DPR and RFP documents.

**ANNEXURE B**  
**Soil Investigation Report**



# **WAPCOS LIMITED**

**(A Government of India Undertaking)**  
**Ministry of Jal Shakti**

## **GUIDING BIDDING DOCUMENTS (GBD)**

**For**

**Selection of**

**Engineering, Procurement and Construction (EPC) Contractor for Development of  
Kovalam & Adjacent beaches in Thiruvananthapuram, Kerala**

**Tender No.: WAP/INFRA/KERALA/24/TSM/480-2**

**Issued on: (26.11.2024)**

**Contact Details:**

**Regional Manager- Kerala**

**WAPCOS Limited**

**1<sup>st</sup> Floor, JP Krishna Building, Pallimukku,**

**Pettah Trivandrum – 695024**

**Email: [kochi@wapcos.co.in](mailto:kochi@wapcos.co.in), [wapcoskovalam@gmail.com](mailto:wapcoskovalam@gmail.com)**

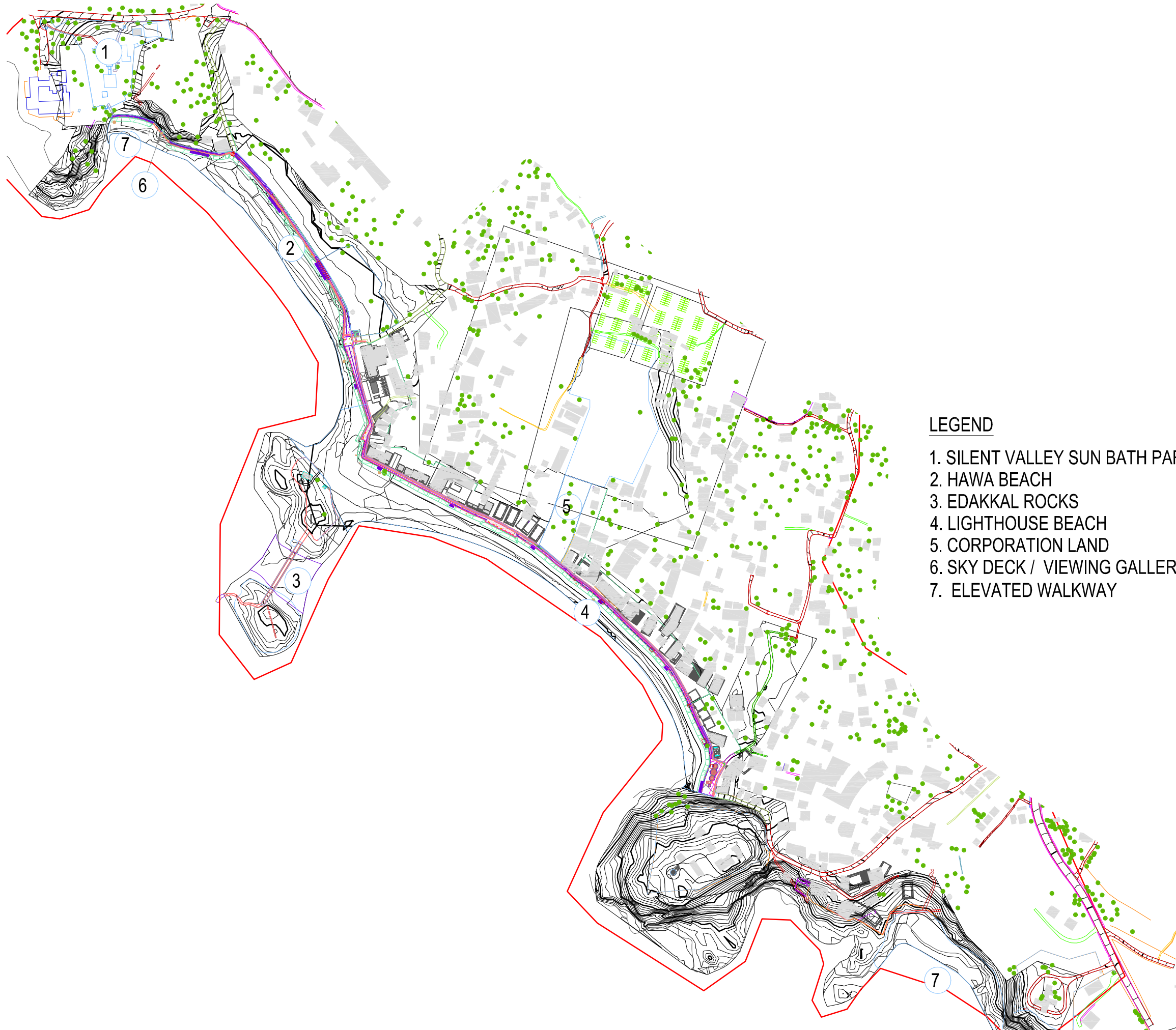
**Phone No.: 0471-2996668**

**VOLUME – V**  
**TENDER DRAWINGS**

DRAWING LIST				
SL.NO.	SHEET NUMBER	SHEET NAME	DISCIPLINE	DRAWING NUMBER
1.	WAP-001	MASTER PLAN	MP	WAP/P-02/MP-01
2.	WAP-002	SILENT VALLEY SUN BATH PARK - SITE LAYOUT	MP	WAP/P-02/MP-02
3.	WAP-003	SILENT VALLEY SUN BATH PARK - CONCEPTUAL LAYOUT	CL	WAP/P-02/CL-01
4.	WAP-004	HAWA BEACH - SITE LAYOUT	MP	WAP/P-02/MP-03
5.	WAP-005	LIGHTHOUSE BEACH - SITE LAYOUT	MP	WAP/P-02/MP-04
6.	WAP-006	CORPORATION LAND - SITE LAYOUT	MP	WAP/P-02/MP-05
7.	WAP-007	CORPORATION LAND - CONCEPTUAL LAYOUT	CL	WAP/P-02/CL-02
8.	WAP-008	EDAKKAL ROCKS - SITE LAYOUT	MP	WAP/P-02/MP-06
9.	WAP-009	WALKWAY – CONCEPTUAL REPRESENTATION	CL	WAP/P-02/MP-07
10.	WAP-010	WALKWAY – CONCEPTUAL REPRESENTATION	CL	WAP/P-02/MP-08

) MP – Master Plan  
 ) CL- Conceptual Layout





### LEGEND

1. SILENT VALLEY SUN BATH PARK
2. HAWA BEACH
3. EDAKKAL ROCKS
4. LIGHTHOUSE BEACH
5. CORPORATION LAND
6. SKY DECK / VIEWING GALLERY
7. ELEVATED WALKWAY



CLIENT :



**DEPARTMENT OF TOURISM**  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



**WAPCOS LIMITED**  
(A Government of India Undertaking)  
Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

**KIIFB - TRC**

PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

### REVISIONS

DESIGNED BY :	DRAWN BY :
CHECKED BY :	APPROVED BY :

DRAWING STATUS :

**PRELIMINARY**

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<b>A3</b>	<b>NTS</b>	<b>RO</b>

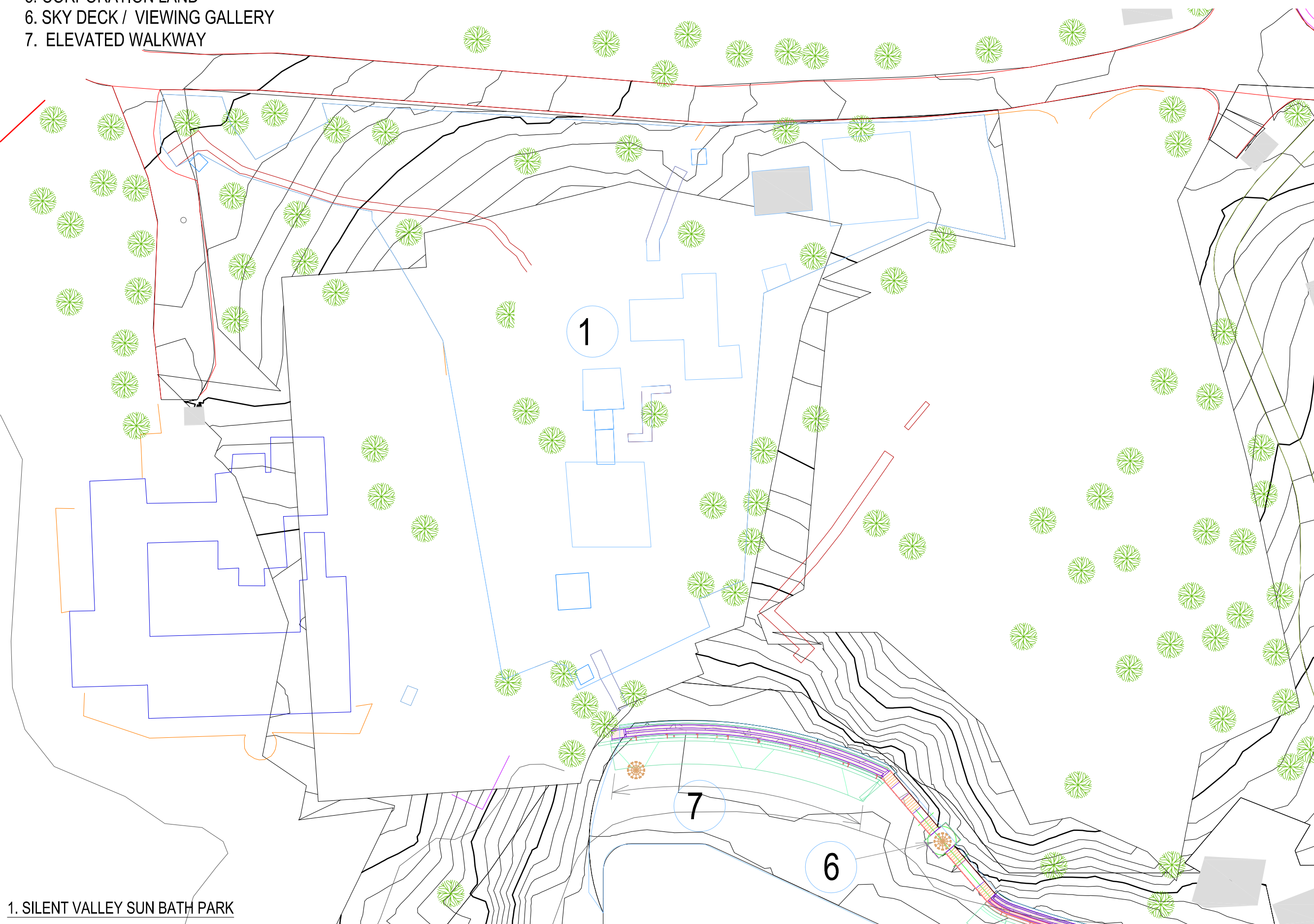
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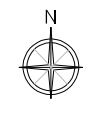
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WAP/P-02/MP-01	SHEET NO : WAP-001

LEGEND

- 1. SILENT VALLEY SUN BATH PARK
- 2. HAWA BEACH
- 3. EDAKKAL ROCKS
- 4. LIGHTHOUSE BEACH
- 5. CORPORATION LAND
- 6. SKY DECK / VIEWING GALLERY
- 7. ELEVATED WALKWAY



1. SILENT VALLEY SUN BATH PARK




CLIENT :



**DEPARTMENT OF TOURISM**  
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SPECIAL PURPOSE VEHICLE (SPV) :



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Ministry of Jal Shakti  
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Trivandrum 695024, Kerala

DPR PREPARED BY :

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PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

REVISIONS	
DESIGNED BY :	DRAWN BY :
CHECKED BY :	APPROVED BY :

DRAWING STATUS :

**PRELIMINARY**

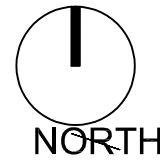
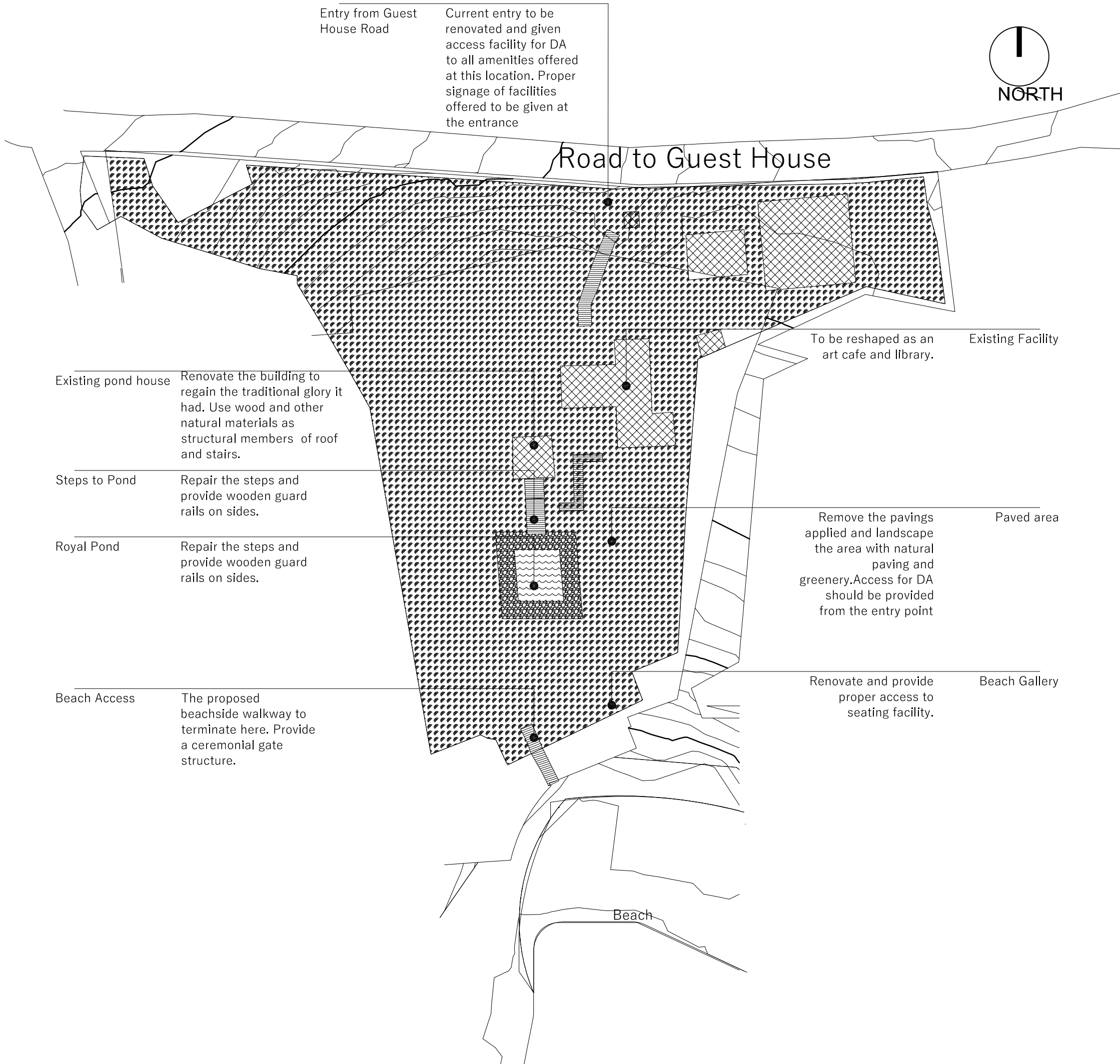
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<b>A3</b>	<b>NTS</b>	<b>RO</b>

DRAWING TITLE :

**SILENT VALLEY SUN BATH PARK  
- SITE LAYOUT**

DRAWING NO :	DATE : 23/08/2023
WAP/P-02/MP-02	SHEET NO : WAP-002





CLIENT :



**DEPARTMENT OF TOURISM**  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



**WAPCOS LIMITED**  
(A Government of India Undertaking)  
Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

**KIIFB - TRC**

PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**


RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

**REVISIONS**

DESIGNED BY :	DRAWN BY :
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CHECKED BY :	APPROVED BY :
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DRAWING STATUS :

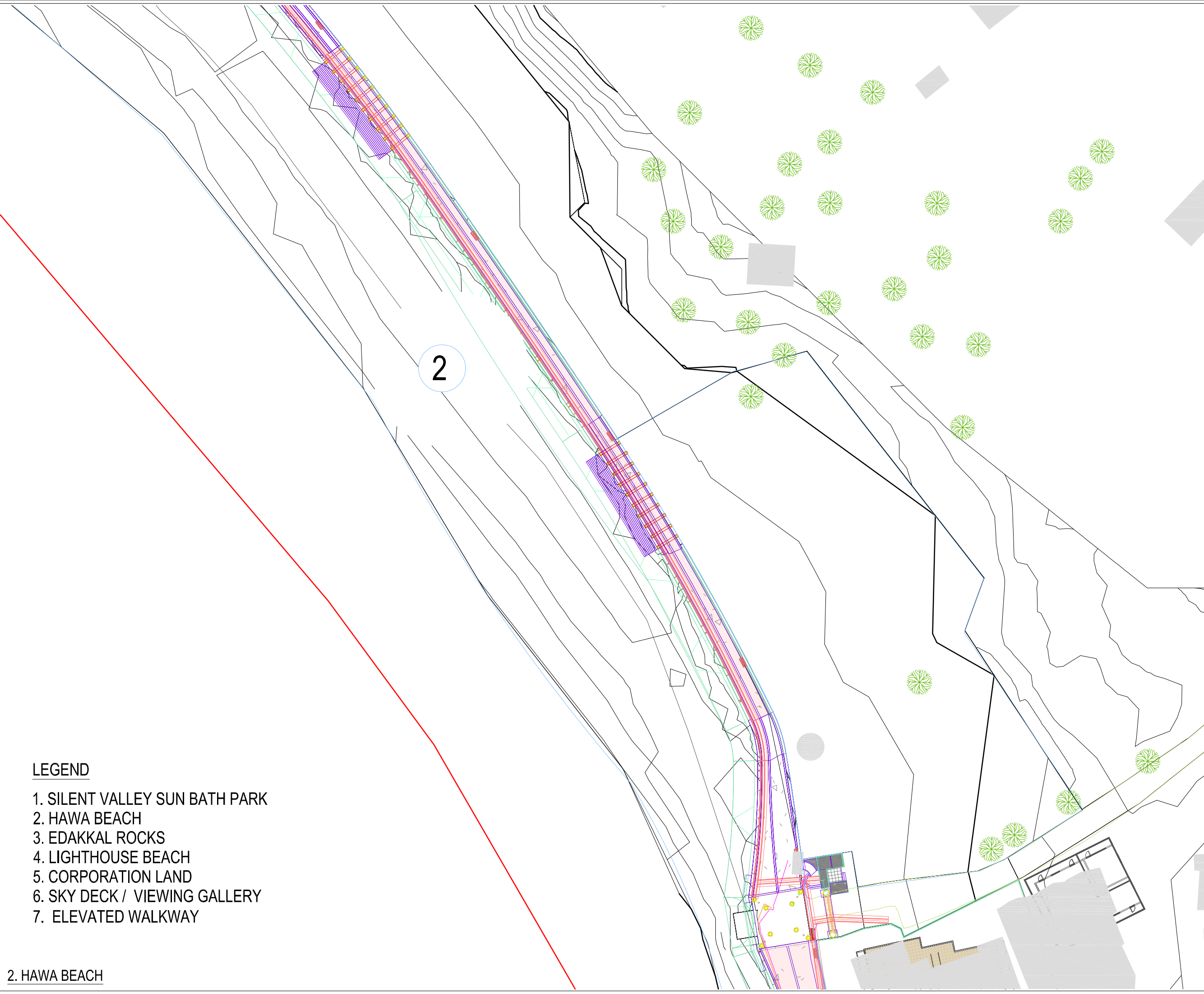
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DRAWING TITLE :

**SILENT VALLEY SUN BATH PARK  
-CONCEPTUAL LAYOUT**

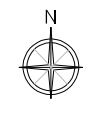
DRAWING NO :	DATE : 23/08/2022
WAP/P-02/CL-01	SHEET NO : WAP-003



LEGEND

- 1. SILENT VALLEY SUN BATH PARK
- 2. HAWA BEACH
- 3. EDAKKAL ROCKS
- 4. LIGHTHOUSE BEACH
- 5. CORPORATION LAND
- 6. SKY DECK / VIEWING GALLERY
- 7. ELEVATED WALKWAY

2. HAWA BEACH



CLIENT :



DEPARTMENT OF TOURISM  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



WAPCOS LIMITED  
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Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

KIIFB - TRC

PROJECT NAME :

DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

REVISIONS

DESIGNED BY :	DRAWN BY :
CHECKED BY :	APPROVED BY :

DRAWING STATUS :

PRELIMINARY

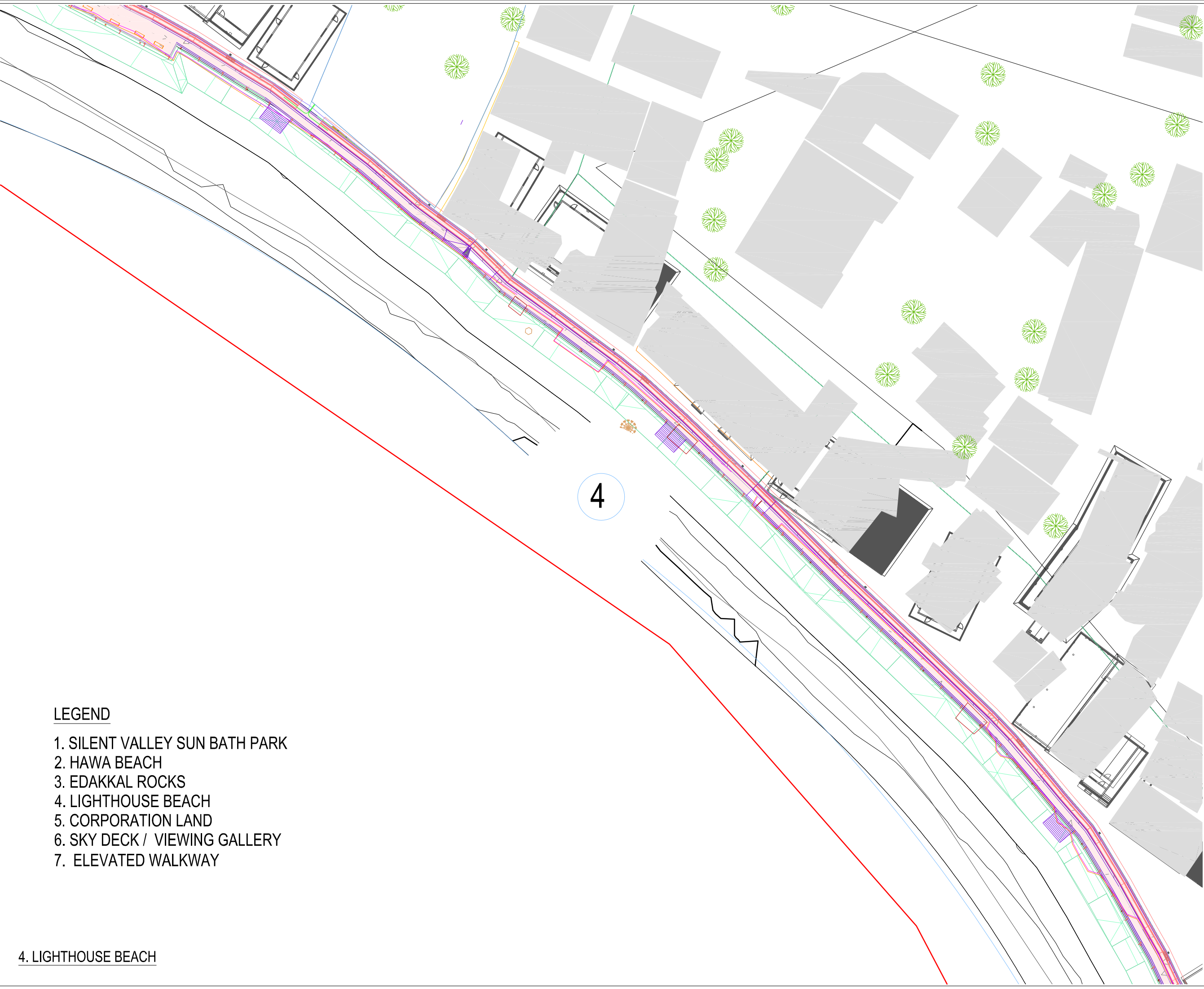
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A3	NTS	RO

DRAWING TITLE :

HAWA BEACH - SITE LAYOUT

DRAWING NO :	DATE : 23/08/2023
WAP/P-02/MP-03	SHEET NO : KBD-004





LEGEND

- 1. SILENT VALLEY SUN BATH PARK
- 2. HAWA BEACH
- 3. EDAKKAL ROCKS
- 4. LIGHTHOUSE BEACH
- 5. CORPORATION LAND
- 6. SKY DECK / VIEWING GALLERY
- 7. ELEVATED WALKWAY

4. LIGHTHOUSE BEACH



CLIENT :



DEPARTMENT OF TOURISM  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



WAPCOS LIMITED  
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Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

KIIFB - TRC

PROJECT NAME :

DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

REVISIONS

DESIGNED BY :	DRAWN BY :
CHECKED BY :	APPROVED BY :

DRAWING STATUS :
PRELIMINARY

SHEET SIZE :	SCALE :	REVISION :
A3	NTS	RO

DRAWING TITLE :
LIGHTHOUSE BEACH - SITE LAYOUT

DRAWING NO :	DATE : 23/08/2023
WAP/P-02/MP-04	SHEET NO : WAP-005



5. CORPORATION LAND

LEGEND

- 1. SILENT VALLEY SUN BATH PARK
- 2. HAWA BEACH
- 3. EDAKKAL ROCKS
- 4. LIGHTHOUSE BEACH
- 5. CORPORATION LAND
- 6. SKY DECK / VIEWING GALLERY
- 7. ELEVATED WALKWAY



CLIENT :



**DEPARTMENT OF TOURISM**  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



**WAPCOS LIMITED**  
(A Government of India Undertaking)  
Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

**KIIFB - TRC**

PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

REVISIONS	
DESIGNED BY :	DRAWN BY :
CHECKED BY :	APPROVED BY :

DRAWING STATUS :

**PRELIMINARY**

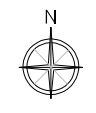
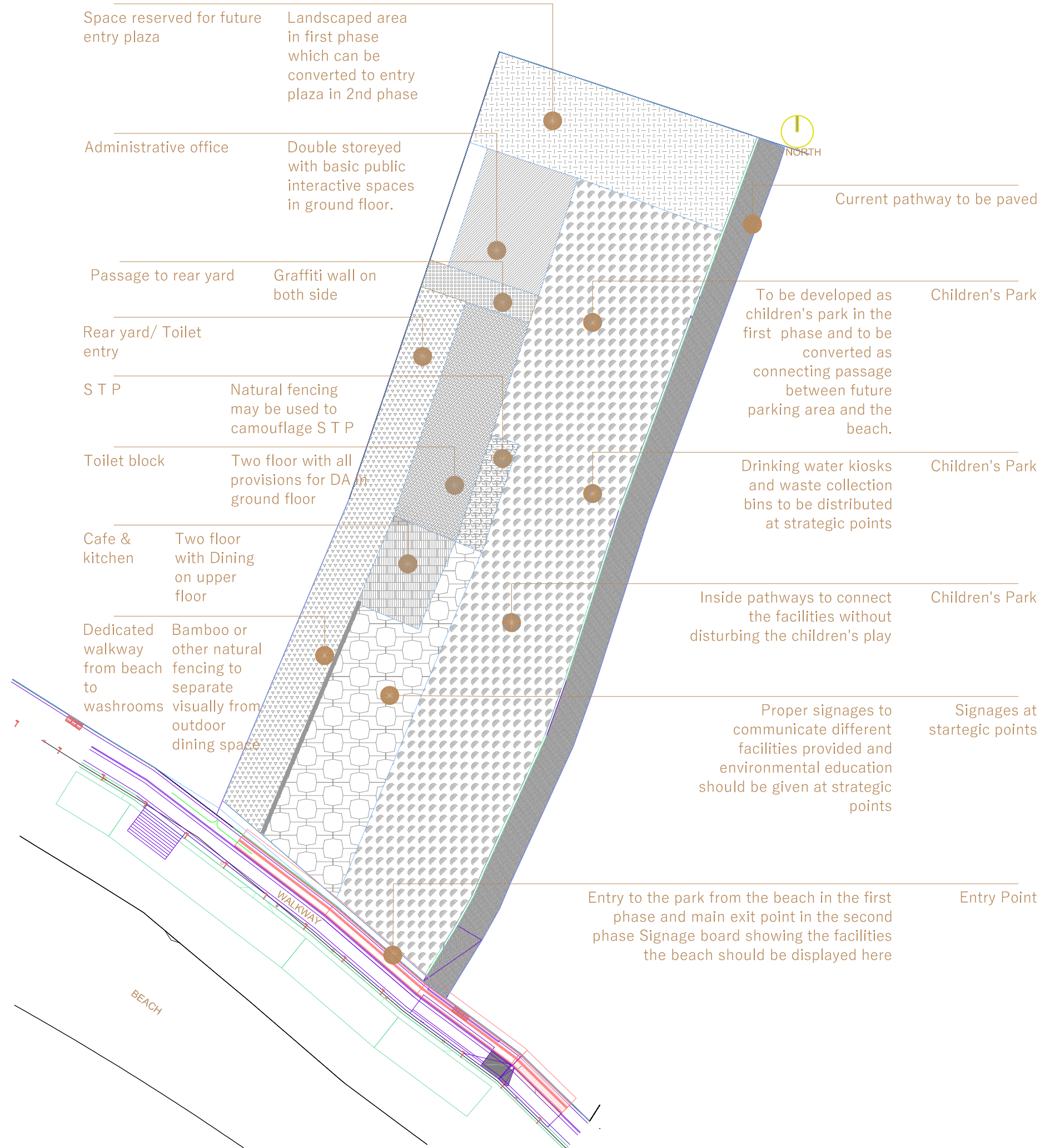
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DRAWING TITLE :

**CORPORATION LAND - SITE LAYOUT**

DRAWING NO :	DATE : 23/08/2023
WAP/P-02/MP-05	SHEET NO : WAP-006





CLIENT :

 **DEPARTMENT OF TOURISM**  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :

 **WAPCOS LIMITED**  
(A Government of India Undertaking)  
Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

**KIIFB - TRC**

PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

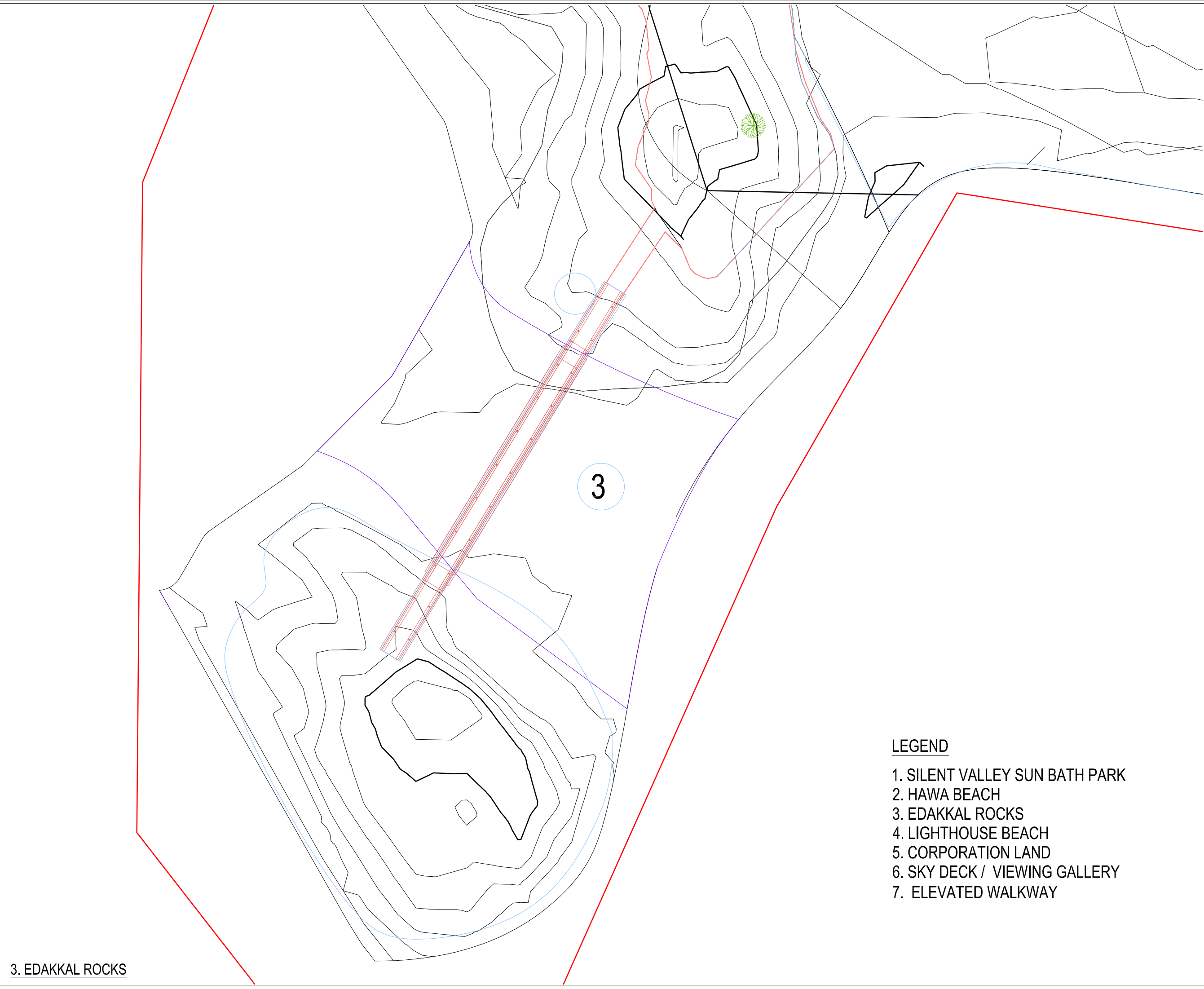
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DESIGNED BY :	DRAWN BY :
CHECKED BY :	APPROVED BY :

DRAWING STATUS :		
PRELIMINARY		
SHEET SIZE :	SCALE :	REVISION :
A3	NTS	RO

DRAWING TITLE :

**DEVELOPMENT OF CORPORATION LAND  
-CONCEPTUAL DRAWING**

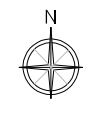
DRAWING NO :	DATE : 23/08/2023
WAP/P-02/CL-02	SHEET NO : WAP-007



3. EDAKKAL ROCKS

LEGEND

- 1. SILENT VALLEY SUN BATH PARK
- 2. HAWA BEACH
- 3. EDAKKAL ROCKS
- 4. LIGHTHOUSE BEACH
- 5. CORPORATION LAND
- 6. SKY DECK / VIEWING GALLERY
- 7. ELEVATED WALKWAY




CLIENT :



**DEPARTMENT OF TOURISM**  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



**WAPCOS LIMITED**  
(A Government of India Undertaking)  
Ministry of Jal Shakti

Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

**KIIFB - TRC**

PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**

RO	PRELIMINARY	15/07/22
NO	DESCRIPTION	DATE

REVISIONS

DESIGNED BY :	DRAWN BY :
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CHECKED BY :	APPROVED BY :
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DRAWING STATUS :

**PRELIMINARY**

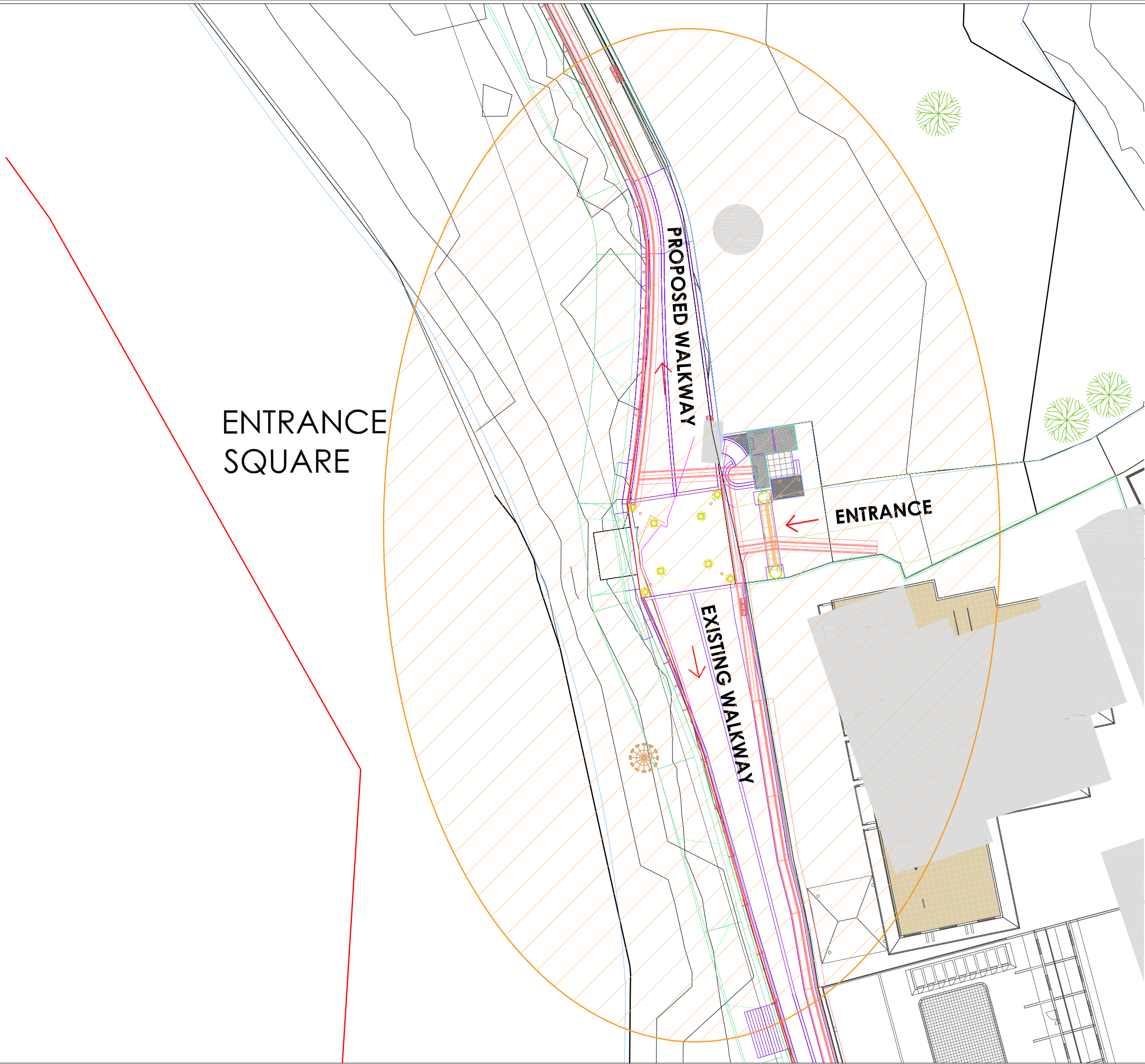
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<b>A3</b>	<b>NTS</b>	<b>RO</b>

DRAWING TITLE :

**EDAKKAL ROCKS - SITE LAYOUT**

DRAWING NO :	DATE : 23/08/2023
WAP/P-02/MP-06	SHEET NO : WAP-008






CLIENT :



**DEPARTMENT OF TOURISM**  
(Government of Kerala)

SPECIAL PURPOSE VEHICLE (SPV) :



**WAPCOS LIMITED**  
(A Government of India Undertaking)  
Ministry of Jal Shakti  
Regional Office (Kerala)  
1st Floor, JP Krishna Building  
Pallimukku, Pettah  
Trivandrum 695024, Kerala

DPR PREPARED BY :

**KIIFB - TRC**

PROJECT NAME :

**DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES**


NO	DESCRIPTION	DATE
REVISIONS		

DESIGNED BY :	DRAWN BY :
JK	NT

CHECKED BY :	APPROVED BY :
PS	VL

DRAWING STATUS :

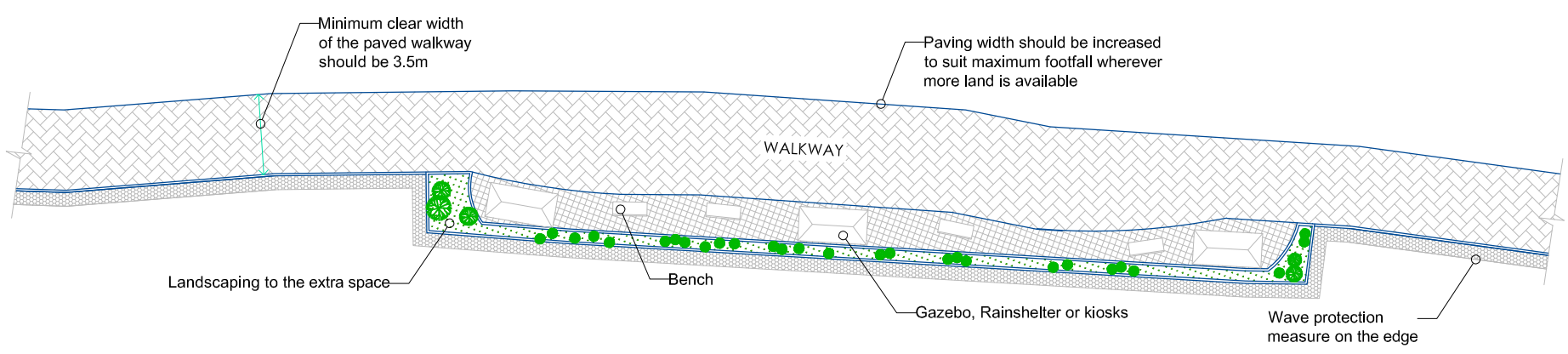
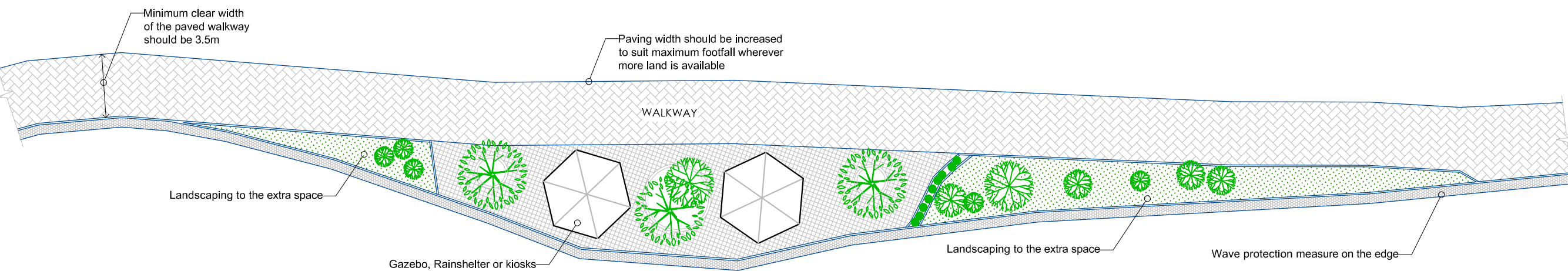
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SHEET SIZE :	SCALE :	REVISION :
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DRAWING TITLE :

**CONCEPTUAL REPRESENTATION OF  
WALKWAY AND GATHERING SPACE**

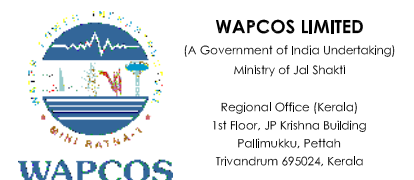
DRAWING NO :	DATE : 23/08/2023
WAP/P-02/CL-03	SHEET NO : WAP-009



CLIENT :



SPECIAL PURPOSE VEHICLE (SPV) :



DPR PREPARED BY :

KIIFB - TRC

PROJECT NAME :

DEVELOPMENT OF KOVALAM  
AND ADJACENT BEACHES

NO	DESCRIPTION	DATE

REVISIONS

DESIGNED BY :	DRAWN BY :
JK	NT
CHECKED BY :	APPROVED BY :
PS	VL

DRAWING STATUS :  
**PRELIMINARY**

SHEET SIZE :	SCALE :	REVISION :
A3	NTS	RO

DRAWING TITLE :  
**CONCEPTUAL REPRESENTATION OF  
WALKWAY AND GATHERING SPACE**

DRAWING NO :	DATE : 23/08/2023
WAP/P-02/CL-04	SHEET NO : WAP-010