
GUJARAT STATE DISASTER MANAGEMENT AUTHORITY (GSDMA)

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TENDER

FOR

LANDSCAPE DENSIFICATION

**AT SMRITIVAN EARTHQUAKE MEMORIAL, BHUJ, DISTRICT: BHUJ,
STATE: GUJARAT**

ISSUED BY:

GUJARAT STATE DISASTER MANAGEMENT AUTHORITY (GSDMA)

ON

Date: 1st November, 2018



Gujarat State Disaster Management Authority

Regd. Office: CHH Road, Sector 18, Gandhinagar

Gujarat – 382 018.

Website:-www.gsdma.org;

NOTICE INVITING e-Tender No.- GSDMA/SM III/Smritivan/Landscape

SUB: "TENDER FOR LANDSCAPE DENSIFICATION AT SMRITIVAN EARTHQUAKE MEMORIAL, BHUJ, DISTRICT: BHUJ, STATE: GUJARAT"

Gujarat State Disaster Management Authority (GSDMA) invites interested parties to participate in this Request for Proposal (this **"Tender"**) for bidding and selection process for the appointment of Contractor for "Landscape Densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat" (the „**Project**“).

Tender Documents may be downloaded from Website <https://gsdma.nprocure.com>. For view download and any other updates regarding this Tender, kindly check www.gsdma.org. Tender Fee & EMD shall be paid along with online submission of Tender Documents shall be submitted before the due date along with the original documents. All the relevant documents of the Tender shall also be submitted physically by Registered Post A.D. or Speed Post only which shall be addressed to: **Chief Executive Office** super scribing the envelope with Tender No. and Description. "NO COURIER SERVICE OR HAND DELIVERY" shall be considered for submission of tenders.

TABLE A: IMPORTANT DATES

Sr.	Event	Date (and Time)
I	Date of upload of this RFP	: 1 st Nov. 2018
II	Pre-Bid Meeting at GSDMA office	: 12 th Nov. 2018
III	Last date and time of On-line (e-tendering) tender/offer submission (the “Bid Submission Deadline”){ This is mandatory }	: 22 nd Nov. 2018
IV	Last date and time of Physical receipt of all the relevant documents by RPAD or Speed Post or in person only { This is mandatory }	: 22 nd Nov. 2018 up to 15:00 Hrs
V	Bid Validity	: One Hundred and Eighty (180) days from the date of opening of the Bid Documents
VI	Opening of Technical Bid (online)	: 22 nd Nov. 2018 up to 17:00 Hrs
VII	Opening of Technical Bid (Physical)	: 22 nd Nov. 2018 up to 17:00 Hrs
VIII	Tentative date of opening of online Financial Bid	: To be declared
IX	Target date for Commissioning of Project	: Within 30 days of issuance of LOI/ Work order
X	Tentative Date for Operational Acceptance Test	: To be declared
XI	Performance Guarantee Testing Period	: One (1) year from date of both, Successful Acceptance.
XII	Operation and Maintenance Period	: Five (5) years from date of, Successful Acceptance of Project.

Note: The abovementioned dates are subject to amendment, in which case the amendments shall be intimated through web only

TABLE B: IMPORTANT AMOUNTS

Sr.	Head	Amount (and Validity)
I	Tender Fees (non-refundable)	Rupees Fifteen Thousand Only (Rs. 15,000/-) including taxes
II	Earnest Money Deposit (EMD) (Refundable/adjustable)	Rupees Twenty Four Lakhs Only (Rs.9,00,000/-), to be submitted as per NIT.
III	Security Deposit cum Performance Bank Guarantee (PBG) for Contractor	Contractor shall furnish 10% of the Contract Value to GSDMA within seven (7) days from the date of issue of Letter of Intent (LoI), an unconditional and irrevocable bank guarantee for SD cum Performance Guarantee, as per Performa given.
IV	O&M Bank Guarantee (O&M BG)	10% of the Total O&M Contract Price for Five (Five) years , to be submitted two months before the expiry of Performance BG valid up to an aggregate period of five (5) years from the initiation of O&M period. {E.g. O&M BG with validity of one (1) year can be submitted, and can be renewed every year for the five (5) years}.

IMPORTANT NOTE TO BIDDERS:

Timely Submission of offer to GSDMA: In addition to bid submitted online, all the relevant documents as per requirement of the Tender shall also be submitted physically along with the proof of Tender Fee and EMD in sealed cover so that the same is received in this office on or before the due date and time. All such documents should be strictly submitted by RPAD / speed post only. Otherwise the offer will not be considered and no any further communication in the matter will be entertained. **Please note that Price Bid is not to be submitted in physical form.** Cumulative Price Bid arrived by quoting item wise BOQ (Bills of quantity) needs to be uploaded online on gsdma.nprocure.

No tender shall be accepted in any case after due date and time of receipt of the Tender, irrespective of delay due to postal services or any other reasons and GSDMA does not assume any responsibility for late receipt of the Tender.

1. All interested parties are requested to understand this Tender in detail in order to comply with GSDMA's requirements including but not limited to the fees and deadlines, selection criteria, selection methodology, scope of work, and minimum technical standards. They shall be strictly abide by ALL terms prescribed in this Tender and provide accurate information to the best of their knowledge without misleading the Company to be considered for participation in this Project.
2. It is mandatory for all the bidders to submit their Financial Bid ONLINE only via e-tendering portal.
3. **Technical Bid (techno-commercial bid)** to be submitted both in physical as well as soft copy (online). It is mandatory for all the bidders to submit their Technical bid (Techno-commercial bid) documents in both forms i.e. online (e-tendering) as well as in hard copy in scheduled time. Technical bid in any one form i.e. either in soft copy (online) or in hard copy (physical form), shall not be considered. Financial Bid (Cumulative amount of entire BOQ needs to be submitted online only).
4. Technical Bid in THREE (3) copies (1 Original+ 2 Copies) shall be sent in Sealed Envelopes containing copies of Technical bid.

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5. **Technical bid** envelope shall be super scribed as: "Tender No. **GSDMA SM-III/Smritivan/Landscape Technical Bid** for "Landscape Densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat" (the "Project")
 6. All the envelopes should be addressed to: Chief Executive Office Gujarat. Complete postal address of the bidder should appear on all the envelopes so that it is possible to find out whose bid it is without opening the envelope.
 7. Tender Fee and EMD shall be submitted in separate envelope.
 8. Tender fee (non-refundable) will be accepted by DD drawn in favour of the **Gujarat State Disaster Management Authority** payable at Gandhinagar Tenders submitted without tender fee will not be accepted. The envelope for tender fee should be superscribed as "Tender Fee" through DD only. Cheques are not acceptable.
 9. Bidder(s) have to pay total EMD of Rs. 9 Lakhs will be accepted in the form of Fixed Deposit/Bank Guarantee in favour of " Gujarat State Disaster Management Authority" payable at Gandhinagar from the Bank as described in the as per the format attached". The envelope for EMD should be super scribed as "EMD". Cheques are not acceptable.
 10. **It is mandatory for all bidders to submit their PRICE-BID only through online (e-tendering).** Price bid submitted in physical form will not be considered for its opening and only online submitted price bid will be considered for evaluation. Bidders to note that Price Bid of those bidders shall be opened (Online/e-tendering) who is found technically qualified and is found responsive to GSDMA"s tender terms and conditions and Scope of Works.
 11. . All the Bidders shall fulfill the pre-qualification criteria as stipulated in RFP Document.
 12. . Any technical/commercial query pertaining to this Tender should be referred

to: santosh.gsdma@gmail.com

Alternate Contact Details:

info@gsdma.org

For quoting the bids, Bidders need to have the Digital Signature Certificates from concerned agencies. **(DSC as per Category- II).**

13. Tender Documents (PDF Format) can be downloaded from Website:

<https://gsdma.nprocure.com>, www.gsdma.org.

14. . GSDMA reserve the rights to accept/reject any or all tenders without assigning any reasons thereof .Bidders are requested to be in touch with above-mentioned websites till opening of the price bid to know the latest status.

Yours faithfully,

For and behalf of Gujarat State Disaster Management Authority,

GSDMA, Gandhinagar

--- End of Section ---

Document Checklist

[Note: Document Checklist shall be attached along with Technical Bid]

Sr.	Document	Complied/ Attached? (Yes/ No)	For Official Use
1.	Complete sets of Bid documents (original and 02{{two} copies) as prescribed in RFP in Cover -I		
2.	Signed Tender Document(s) in Cover-I as described in RFP		
3.	Enclosures of the Bid including the Covering Letter in Cover-I		
4.	EMD in the form of Demand Draft or/and Bank Guarantee as per format prescribed in RFP: Format of Bank Guarantee. In Cover-I		
5.	Details of the Bidder as per format prescribed in RFP in Cover-I		
6.	Attested copy of GST Registration Certificate of Bidder in Cover-I		
7.	Attested copy of PAN Card for Bidder in Cover- I		
8.	Attested Certificate of Commencement of Business issued by the Registrar of Companies for the Bidder in Cover-I		
9.	Attested copy of Provident Fund Code of Bidder in Cover-I		
10.	Details of similar technical experience of the Bidder as per Format of Details of Similar Technical Experience in Cover-I		
11.	Curriculum Vitae of all qualified technical staff indicated in RFP in Cover-I		
12.	Details of proposed Landscape Densification in Cover-II		
13.	Project execution plan in Cover-II		
14.	Declaration of Compliance as per format prescribed in RFP in Cover-I		

15.	Declaration of Bidder's relation to Directors of GSDMA as per format prescribed RFP in Cover-I		
16.	Power of Attorney by the Bidder authorizing the signatory as per format in RFP in Cover-I		
17.	Format of Summary of audited financial statements as per format prescribed in RFP in Cover –I		
18.	Audited financial statements of the Bidder for the years indicated in RFP in Cover-I		
19.	Financial Proposal (Only Online) as per the format prescribed in RFP BoQ		
20.	Project implementation till Operation & Maintenance (O&M) Schedule with resource planning in the form of Gantt/ Pert Charts in Cover II		
21.	Bill of Quantities with Specifications / Make (without financial details) etc. as per RFP in Cover II		
22.	Copy of this RFP with sign and official seal on every page in Cover I		

Bidder has to adhere to above checklist while preparing bid submission in Cover I & Cover II. Both Cover I & II needs to be inserted in One Cover duly signed and sealed while submitting bid.

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1 About

1.1 About GSDMA

- 1.1.1 Immediately after the 26th January 2001 earthquake, Gujarat State Disaster Management Authority (GSDMA) was established and registered as a „Society“ under the provisions of the Societies Registration Act and the Bombay Public Trust Act on 8 February 2001. GSDMA was initially mandated to implement the gigantic task of rehabilitation and reconstruction programme in the earthquake affected areas of the State and simultaneously act as a nodal agency to plan and implement pre-disaster preparedness and mitigation activities including training and capacity building of all the stakeholders involved in disaster management. After the passage of Gujarat State Disaster Management Act – 2003, the Society constituted earlier as GSDMA was dissolved under Section 49 of the Act, and the Statutory Authority under Sub-Section 1 of the Section (6) came to an existence with effect from 1st September, 2003

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2 Instructions to Bidders

2.1 General Instructions

- 2.1.1 The current document is the Tender, which is issued to all the potential Bidders, requesting a Bid for implementation of the Project on a fixed price basis. A Contractor would be selected through competitive bidding process for execution of the Project.
- 2.1.2 Before submitting tenders, the instructions may be read carefully regarding submission of tender. If any bidder finds discrepancies or omissions in the Tender documents or is in doubt as to the true meaning of any part, he shall clarify same from the Tender issuing office in writing before the due date of submission of the queries.
- 2.1.3 Unless exempted specifically, tenders not accompanied with the prescribed EMD, Tender Fees shall be rejected. EMD / Tender Fees shall be in the prescribed mode of payment as asked in the NIT otherwise the tender shall be liable to be rejected.
- 2.1.4 The validity of the Tender / offer shall be for 180 days from the date of opening of Technical Bid.
- 2.1.5 The details of NIT along with Tender Documents can be seen and downloaded from GSDMA website www.gsdma.org
- 2.1.6 The committee nominated by GSDMA shall evaluate all the bids received against NIT on the parameter indicated under heading Pre-Qualifying Requirement (PQRs)/ Eligibility conditions in RFP and other relevant clause of the Tender. The decision of the committee shall be final.
- 2.1.7 Issuance of Tender Documents to any party shall not construe that such party is considered to be qualified.
- 2.1.8 In case due dates of sale / receipt /opening of the Tender happens to be holiday

in GSDMA, the needful will be done on next working day.

- 2.1.9 The bidders / contractors shall observe the highest standards of ethics during the submission of tender, procurement and execution of the contract. In case of evidence of cartel formation by the Bidder(s) EMD is liable to be forfeited.
- 2.1.10 The bidder shall bear all costs including bank charges if any, associated with the preparation and submission of his bid and the purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 2.1.11 Tender Issuing Authority reserves the right to cancel the NIT or to change qualifying requirement or to reject any or all the tenders so received without assigning any reason.
- 2.1.12 The Site for the work is either available or it shall be made available in the parts in a manner so as not to hamper the progress of work.
- 2.1.13 The Bidder whose Bid is accepted will be required to furnish by way of Performance Bank Guarantee the amount as prescribed in the NIT for the due fulfillment of his Contract.
- 2.1.14 Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the Bidders who resort to canvassing will be liable to rejection straight way.
- 2.1.15 All rates shall be quoted on the proper form i.e. price bid supplied as part of the Tender documents on e-tender portal by the Department.
- 2.1.16 On acceptance of the Tender, the name of the authorized representative(s) of the Successful bidder, who would be responsible for taking instructions from the Engineer-in-Charge and shall be communicated to the Engineer-in-Charge immediately after the allotment / start of work.

2.1.17 The GSDMA does not bind itself to accept the lowest tender and reserves to itself the right to accept the whole or any part of the Tender and the Bidder shall be bound to perform the same at the rate quoted in this Tender.

2.1.18 No contractor is permitted to tender for the works if any of his near relatives is posted to deal with day to day duties in the passing of bill etc. and who is working in any capacity requiring him to give instructions / advice and in particular any office / official of the Company including the member of the Board. Any breach of this condition by any one shall render him liable to be removed from the list of the contractors for the GSDMA and the work entrusted to him may be terminated.

***Note:**

1. By the terms near relatives meant wife/ husband, parents and grandparents, children and Grandchildren, brothers and sisters, uncles and cousins and their corresponding in-laws.
2. The bidder shall attach the list of officers and employees of GSDMA related to him with this tender.

3 SPECIAL CONDITIONS OF CONTRACT

1. Scope of Work

Scope of work of the contract shall include, but not limited to, the following items:

- 1.1. Earthwork – slope stabilization
- 1.2. Planting areas - mass plantation, filler plantation, display plantation, buffer plantation, feature plantation
- 1.3. Landscape services
 - Plant nursery establishment and management
 - Plantation installation & development
 - Automated Irrigation system - extension of existing irrigation system
 - Maintenance of complete landscape area and entire variety of plantation for five years, including preventive care as well as disease management, mortality replacement and tree transplantation

2. Type of Contract

Contract shall be on Item-Rate basis

3. Site Information

The site is located at Smriti Van, Bhujio Dungar, Bhuj, Dist: Kutch.

2. Acquaintance with site

Applicant shall be deemed to have complete understanding of the site and its conditions necessary for development of landscape, and shall satisfy himself by visiting the site, potential material sourcing areas, obtaining and analysing necessary soil and water samples as well as climatic data for complete acquaintance with the site.

4. Design & Details

Contractor has to work as per the designs and lineout details provided by Landscape Architect. Difficulty on site in execution as per the plan/ design has to be brought to the notice of site-in-charge immediately. Any discrepancies in the design subject to execution hurdles and alteration required should be reported to site-in-charge and the same should be improvised by the Landscape Architect or as per instruction of the site-in-charge and contractor shall have to work only after due approval of the modification.

5. Personnel Required On-Site

Applicant or their specialist should have following staff under full-time employment ready for deployment on project site as and when required:

- 5.1. **Chief Horticulturist (1 no)** – Master's degree or higher with minimum 15 years' of experience in landscaping works, nursery management, horticulture and estate management of similar scale and nature in hilly sites with semi-arid climate, especially in and around Gujarat.
- 5.2. **Horticulturist (Site Supervisor) (2 no)** - Minimum qualification Bachelors Degree in Agriculture / Horticulture / Botany / Ecology from any recognized University in India, copy of certificate to be enclosed with the Technical Bid, with field experience of at least 10 years
- 5.3. **Gardener/Mali (5 nos)** – Minimum 10 years of experience in establishment, maintenance and disease management of landscaping works of similar scale and nature in hilly sites with semi-arid climate, especially in and around Gujarat.

6. Equipment required On-site

Applicant shall own, or have assured access (through hire, lease, purchase agreement, other commercial means, or approved subcontracting) to key items of equipment, in full working order and ready for deployment on project site as follows:

- 6.1. Total Station based computerized survey equipment – 1 no.
- 6.2. Soil moving equipment –tractors / trucks / dumpsters – minimum 1 no. each
- 6.3. Hoisting and lifting equipment – 2 nos.
- 6.4. Plant management equipment including but not limited to – lawn mower, garden shears, various containers for head-loading and local transit / storage, hoes, forks, spades, pickaxes, raking tools, grass shear, grass sword, pruning secateurs, shredders, chainsaws, leafblowers, aerators, garden rollers, sprays and pumps, staking equipment, guying equipment (numbers as required for scale of site works)
- 6.5. Landscape related soil testing equipment / mini lab capable of generating soil reports as specified in technical specifications document (1 no.)
- 6.6. Weather gauges for temperature, humidity, rainfall, wind (1 no.)
- 6.7. Miscellaneous tools and equipment for weighing, drying, screening, covering, etc (numbers as required for scale of site works)
- 6.8. Equipment required for establishment of permanent site nursery (numbers as required for scale of site works)

7. Landscape Site Preparation

The landscape site should be free of any construction debris or wild vegetation. It shall be responsibility of the contractor to ensure that the site is in working condition as per instruction of the site-in-charge. The contractor shall also ensure proper grading of the landscape site in terms of aesthetics as well as drainage providing mounds and slopes with a gentle slope towards natural drainage direction. All rubble and debris if any shall be collected and disposed of in the suitable location possibly in low lying areas as identified by the contractor and approved by site-in-charge. Contractor shall also provide adequate protection to area handed over to him including but not limited to garden-net or GI Sheet fencing along entire area for ensuring complete protection from nearby construction, stray animals, dust, excessive heat, etc for preventing any disturbance or inclement weather to affect the handed over area.

8. Soil for planting & regular soil tests

The Soil to be used as Top Soil (Garden Soil/earth) for all plantation works shall be primarily imported fertile soil consisting of approved lake bed silt, tank silt or from agriculture fields. All sources must be in conformity with legal and environmental provisions governing the project and site. All soils to be used for intensive landscape plantation shall be tested to conform to the following criteria:

Sl.No	Parameter	Acceptance value
1.	pH Value	7.5
2.	Nitrogen Between	25-60 ppm
3.	Total Soluble Solids	0.01%
4.	Chloride	20 mg/kg
5.	Carbonates	Between 1 & 60%
6.	Organic Matter	Between 1 & 60%
7.	Phosphorous	Between 4 & 5 ppm
8.	Calcium	Between 150 & 250 ppm
9.	Magnesium	Between 11 & 20% / Between 7 and 10 ppm
10.	Salinity	Between 420 & 12 Months 0 ppm
11.	Sodium	Less than 5%
12.	Potassium	Between 90 & 125 ppm
13.	Sodium Adsorption Ratio (SAR)	Between 12% to 15 %

14. Sulphure as Sulphate	Between 7 & 12 ppm
15. Iron	Between 5 & 20 ppm
16. Boron	Between 0.5 & 1.0ppm
17. Zinc	Between 1.2 & 3.5 ppm
18. Copper	Between 0.3 & 1.0ppm

The contractor should prepare soil test report for each batch imported on site along with proposed measures, if required, for additives and soil conditioner to maintain pH value of the soil between 7.0 -7.5 before plantation works. Progressive tri-monthly soil test reports shall be maintained for random soil samples taken at rate of one for each hectare of planted area. In addition, the site-in-charge or landscape architects may, at any point of time, direct the contractor to test soil sample from plantation area. Also Contractor shall undertake treatment as per advice of the landscape architects for soil conditioning during the entire maintenance period.

9. Sub-contracting by Applicant

No sub-contracting/ Joint Venture (JV) would be allowed.

10. Defect Liability

The contractor shall provide a defect liability of (5 years) five years for all equipment installed, construction undertaken and plantation developed.

The Contractor shall provide a certificate of adherence to all plant sourcing specifications for each batch of plants imported into the site or developed in the site nursery. All plants shall also be covered under defect liability and contractor shall be liable for replacement in all cases of plant mortality except nature based force-majeure. Any plants deemed dead, dying, exhibiting disease or stunted growth shall be replaced by Contractor at own cost.

11. Disposal of Waste-General Cleanliness of Landscape Site

The arrangement of transport for disposal of waste, shifting of plants, etc. has to be made by the contractor. The generated waste has to be disposed off within 48 hrs of generation or as instructed. Failing which arrangement shall be made for disposal of the same by the employer at risk and cost of the landscape contractor. It is the contractor's responsibility to keep the garden healthy and in proper condition all the time. Employer will provide place for disposal of garden waste within premises for De-composting to be compulsorily adopted by the Contractor

12. Provision for Water & Electricity

Necessary water & electricity provision would be arranged by the proposed bidder. Contractor should ensure adequate source of water at own cost. Maintenance of tankers or any appropriate system shall be integral responsibility of the Contractor to meet the watering requirements of the Trees, shrubs and lawns under any circumstances. Water quality should be ensured for irrigation requirement, and regular testing for water quality should be performed.

13. Reports

The Contractor shall submit daily report on the deployment details as well as work planned for the day to the Site-In-Charge in prescribed format. All instructions and activities shall be recorded as per the desired format. Any problem or hindrance shall be brought to notice in the daily report along with evidence in form of photographs. Also the contractor shall be required to maintain Stock Register at all times for the planting material sourced to Employer's site and Supply for plantation in the Nursery maintained by the Contractor. Contractor would also ensure arrangement of Nursery at site.

14. Shop Drawings

The Contractor shall submit, well in advance, shop-drawings for items like coir geotextile installation, geogrid installation, borewell installation.

15. Mock-ups

Contractor is required to erect mock-ups of coir geotextile installation, geogrid installation.

16. Nursery Maintenance Office Set-up

The Contractor shall be required to set-up Office for its staff and Nursery with good micro-climate to store the supply of the plants. In case of propagation of the plants in the nursery, the same shall be used on site only.

17. De-composting

Contractor shall mandatorily have De-Composting System developed at appropriate location where all the pruning wastes, organic wastes shall be dumped with weeds, weed seeds or bulbs, stones etc., mix it well in the soil in the ratio (6:1), level as per grade.(point of unloading 0-50m). The process shall be require approval of the site-In-Charge and periodic maintenance of the activity. Approval of site in charge prior to dispatch of material for use on site is must.

18. Maintenance

The Landscape Contractor shall maintain the works for a period of five calendar years. The Employer reserves the right to terminate the maintenance period at any time, whereby no additional charges are to be made by the Landscape Contractor to the Employer. The Contractor shall adhere to the maintenance schedule. During the maintenance period of all the plants, contractor shall be responsible for any replacement towards mortality and the trees or the area of the plantation under shrubs/creepers/ground covers etc should be in healthy condition during the inspection conducted by the site-in-charge every month. Contractor shall maintain daily record of maintenance & operations on site and submit daily report for all the areas. Contractor shall take note of the observations of the site-in-Charge or his representative/Horticulturist and seek compliance of the same at the earliest before nearest schedule.

19. The extent of the landscape to be maintained by the Landscape

Contractor shall be deemed to cover and include all softscape landscape areas within the overall project boundaries as shown on the drawings including any existing soft landscape not affected by the Sub-Contract works and retained intact or nearly so through the end of the Sub-Contract period as well as all the landscape works covered in the Sub-Contract scope of works. No additional charges will be allowed unless specifically agreed to by the Landscape Architect in writing.

20. Daily Site Inspections

The Landscape Contractor's Horticulturist shall inspect the site every day and shall submit report to the employer on their actions and closure of the pending works .Also on weekly basis, the Contractor's Horticulturist shall prepare a brief schedule of operations planned for the week with target dates.

21. Daily Reports

The daily report and the weekly schedule shall be running record of proposed operations which would be checked at the maintenance inspections every month. If in the opinion of the Landscape Architect/Site-In-Charge, the maintenance works have not been satisfactorily carried out according to site conditions and the specifications, the payment will be withheld until the works have been satisfactorily carried out besides the penalty as in the penalty clause.

22. Plant Maintenance

The Landscape Contractor shall take all necessary measures to ensure that all pot plants, trees and shrubs and other plants shall thrive and become established within this period. All landscape areas will be inspected and list of remedial works issued after each inspection. All items on the remedial lists are to be carried out by the time of the next inspection. The Landscape Contractor shall keep the landscape areas clean and tidy at all times and dispose of all waste materials arising from the cleaning.

23. If the Landscape Contractors works are found to be unsatisfactory, payment shall be withheld and the maintenance period extended for the period of time that the landscapes maintenance has not been satisfactory. All cost associated with the extension of time shall be borne by the contractor.
24. The Landscape Contractor shall water all trees, palms, shrubs, groundcover, herbaceous plants and other planting areas as often as necessary or as directed by site-in-charge to keep the ground moist all around and to the full depth of the roots, but never to excessively water the areas.
25. Complete regular maintenance operations like irrigation, de-weeding, pruning, preventive care, protection of landscape areas, disease management, mortality replacement, regular soil testing, weather recording, nursery management, application of fertilizers and pesticides is included in contractor's scope of work for the entire period of maintenance.
26. Contractor's deliverables & installation as per BOQ would be certified by GSDMA committee comprising, District Forest Officer-Bhuj, Deputy Director Horticulture – R&B Bhuj, Member nominated by Collector office Bhuj (member from Smritivan Governing Society).
27. Upon receipt of delivery & installation certificate from GSDMA committee, site architect would arrange for quality check and advise GSDMA for releasing payments towards contractor bill.
28. Payment Terms for the work would as follows,
 - 28.1. 10% of Contract Value to be paid as mobilization advance against Performance Bank Guarantee.
 - 28.2. Remaining amount upon phase wise delivery & installation (plantation & densification completion) and maintenance work duly certified as per point 21 & 22 above.
29. Contractor has to complete the landscape densification (as per BoQ) activity within 30 days of issuance of LOI/Workorder.

Prequalification Criteria:

QUALIFICATION CRITERIA

I. BIDDER'S PRE-QUALIFICATION CRITERIA & UNDERTAKING

Landscape Architecture is divided into soft landscape dealing with trees, shrubs, lawn, low shrubs, etc and hard landscape area which will include paving, lighting irrigation system, water bodies, fountains, etc. The purpose of this assessment is to ascertain the Bidder's capacity to deliver mainly soft landscape, and with the help of suitably qualified Contractor, the hard landscape. With this important criteria for judgement, following slabs have been worked out of proper development and maintenance of soft landscape.

1. Mandatory Criteria for Prequalification

No	Criteria (To qualify the bidders need to fulfil all FIVE criteria as below along with Photographic documentation and valid completion certificates)	Applicable (YES / NO)
1	Completed landscape development projects in a given year with final value of any one work equal to or more than Rs. 150 lacs in last two years (with respect to the final value of completed work including hard landscape (like paving, walls, etc), lighting, irrigation, water bodies, etc) and soft landscape (plantation, mound development). For showcasing these past projects contract copy, work completion certificate, client certificate needs to be submitted while Bid response.	
2	Minimum 3 years of experience in landscape development projects or similar field/ activities in India and Globally. For showcasing these past projects contract copy, work completion certificate, client certificate needs to be submitted while Bid response.	
3	Certificate of Contractor's registration with State Govt or Central Govt agency	
4	Average of the last three years' turn over equal to or above Rs. 150 lacs Chartered Accountant's certificate to be enclosed	
5	Minimum qualification of Contractor's Project Manager & Site Supervisor as a Bachelors Degree in Agriculture / Horticulture / Forestry/ Ecology from any recognized University in India, copy of certificate to be enclosed with the Technical Bid	

2. Contractor to take undertaking

No	Criteria	Agreeable (YES / NO)
1	Proposed bidder would co-ordinate with all project stake holders e.g. GSDMA, Architect, R&B, PMC, Dept of Forest officials, Collector office Bhuj	
2	The bidder has visited the site, and clearly understood the local climate, soil, water, environment, etc necessary for landscape development work	

3	The bidder has clearly understood all parts of the tender document, read the complete document carefully with provided drawings and specifications, has visited the site and its surroundings	
4	The successful bidder shall provide all necessary items, processes, labour, etc mentioned in provision of site utilities, miscellaneous works and processes at no extra cost to the client	
5	The successful bidder to appoint a Site Supervisor with qualifications mentioned in this document	

I undertake that the above information is correct

Contractor's seal and signature

Evaluation Criteria:

The Selection Process is two bid system.

- 1) The marks for technical evaluation are 100 ,
- 2) 60 marks will be as per the technical requirements and 40 marks will be for the presentation
- 3) All eligible bidders will be invited for the presentation.
- 4) Following the presentation, a final marking out of 100 will be done. Only those who obtain 65% marks in the overall marking, their financial bids will be opened.

A contractor will be selected in accordance with the Quality and Cost Based Selection (QCBS).

Weightage - Technical Bid 60% + Financial Bid 40%

Financial score will be arrived at as follows: The firm quoting the lowest will be given 40 marks. The other firms will be allocated marks based on the formula “40PL/P”, where P is the fee quoted by the firm while PL is the lowest fee quoted.

Technical requirement would carry 60% (60 Marks Weightage) based on following;

(a)	Financial strength	10 marks
(b)	Experience in similar nature of work during last three years	20 marks
(c)	Performance on works – Time, Quality & Cost Over Run	10 marks
(d)	Personnel, Plant & Equipment and Establishment	20 marks
	Total	60 Marks
(e)	Presentation to tender committee	40 Marks
TOTAL		100 marks

	Attributes	Evaluation
(a)	Financial strength (10 marks) (i) Average annual turnover 6 marks (ii) solvency Certificate 4 marks	(i) 60% marks for minimum eligibility criteria (ii)100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis.
(b)	Experience in similar work (20 marks) Min 5 Projects of similar nature	(i) 60% marks for minimum eligibility criteria (ii)100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis.
(c)	Performance on works – Time, Quality & Cost Over Run (10 Marks)	

<p>Minimum marks- submit 5 projects completion certificate/performance report of similar scale</p> <p>Average marks: above details with No cost and time over-run</p> <p>Full marks: Completing above before time and saving to client</p>	<p>(i) 50% marks to minimum criteria</p> <p>(ii) 75% marks to average criteria</p> <p>(iii) 100% marks in exceeding the criteria and being above</p>
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(d) A. Personnel and Establishment		Marks - 20 marks	
S.No	Description	No. required	Marks Allotted
1	<p>Chief Horticulturist</p> <p>Minimum qualification Bachelors Degree in Agriculture / Horticulture / Botany / Ecology/forestry from any recognized University in India, copy of certificate to be enclosed with the Technical Bid, with field experience of at least 15 years</p>	1	3.5
2	<p>Horticulturist (Site Supervisor)</p> <p>Minimum qualification Bachelors Degree in Agriculture / Horticulture / Botany / Ecology from any recognized University in India, copy of certificate to be enclosed with the Technical Bid, with field experience of at least 10 years</p>	2	4
3	<p>Mali/Gardener</p> <p>Minimum 10 years of experience in establishment, maintenance and disease management of landscaping works of similar scale and nature in hilly sites with semi-arid climate, especially in and around Gujarat.</p>	5	2.5
(D)	B. Equipment	Min. nos. reqd.	10 marks
	<p>Earth moving equipment</p> <p>1. Shovels, Spades, Forks</p> <p>Lawn Equipment</p> <p>1. 100 kg small steel roller</p> <p>2. Electric Rotary lawn mower</p> <p>3. Electric grass shear</p>	<p>As req.</p> <p>1 nos.</p> <p>1 no.</p>	<p>1 Marks</p> <p>1 mark for each upto max. 3 marks</p>

		1 no	
	Shrub Equipment		
	1. Electric Hedge Trimmer	As req.	
	2. Pruning secateurs	As req.	
	3. Thinning Scissors	As req.	
	4. Long Reach Pruners	As req.	
	5. Tree Pruner	As req.	
	6. Pruning saws	As req.	
	7. Hedge Shears	As req.	
	8. Garden Rakes	As req.	
	9. Cultivators	As req.	
	10. Khurpas, Sickles	As req.	
	Testing equipment		
	Digital / electronic equipment to test soil & water pH, electrical conductivity, soil moisture, and sun light conditions	1 No.	
	Declaration towards availability of the plants/equipment shall be submitted with the list		
			0.5 mark for each up to max. 5marks
			1 Marks

Those bidder who qualify and shortlisted from Technical Bid would be called for Presentation round. Presentation round would carry 40% (40 Marks Weightage).

Combined scores from Technical and Financial bids will be considered and highest scorer will be selected as successful bidder to execute the landscape densification works including maintenance.

GSDMA reserves the right to remove any bidder from the tender process if any details submitted has been found incorrect and wrongly presented. GSDMA reserves the right to ask for clarification on bid documents submitted by the bidder during bid evaluation process.

4 TECHNICAL SPECIFICATIONS

- 1 **GENERAL:** The work in general shall be executed as per the description of items, special conditions, provision of this NIT :-
 - 1.1 The work shall be executed and measured as per metric dimensions given in the Schedule of Quantities, drawings etc. (FPS units wherever indicated are for guidance only)
 - 1.2 The landscape site should be free of any construction debris or wild vegetation. It shall be responsibility of the contractor to ensure that the site is in working condition as per instruction of the site-in-charge. The contractor shall also ensure proper grading of the landscape site in terms of aesthetics as well as drainage providing mounds and slopes with a gentle slope towards natural drainage direction. All rubble and debris if any shall be collected and disposed of in the suitable location possibly in low lying areas as identified by the contractor and approved by site-in-charge. Contractor shall also provide adequate protection to area handed over to him including but not limited to garden-net or GI Sheet fencing along entire area for ensuring complete protection from nearby construction, stray animals, dust, excessive heat, etc for preventing any disturbance or inclement weather to affect the handed over area. In addition, Contractor shall provide barricading along the entire stretch to be developed, leaving pedestrian crossings at every 200 metres, such that the general public is not inconvenienced. Adequate safety measures shall be put in place so that no person is put in danger due to Contractor's activities.

2 Soil for planting & regular soil tests

The Soil to be used as Top Soil (Garden Soil/earth) for all plantation works shall be primarily imported fertile soil consisting of approved lake bed silt, tank silt or from agriculture fields. All sources must be in conformity with legal and environmental provisions governing the project and site. All soils to be used for intensive landscape plantation shall be tested to conform to the following criteria:

Sl.No	Parameter	Acceptance value
19.	pH Value	7.5
20.	Nitrogen	Between 25-60 ppm
21.	Total Soluble Solids	0.01%
22.	Chloride	20 mg/kg
23.	Carbonates	Between 1 & 60%
24.	Organic Matter	Between 1 & 60%
25.	Phosphorous	Between 4 & 5 ppm
26.	Calcium	Between 150 & 250 ppm
27.	Magnesium	Between 11 & 20% / Between 7 and 10 ppm
28.	Salinity	Between 420 & 12 Months 0 ppm
29.	Sodium	Less than 5%
30.	Potassium	Between 90 & 125 ppm
31.	Sodium Adsorption Ratio (SAR)	Between 12% to 15 %
32.	Sulphure as Sulphate	Between 7 & 12 ppm
33.	Iron	Between 5 & 20 ppm
34.	Boron	Between 0.5 & 1.0ppm
35.	Zinc	Between 1.2 & 3.5 ppm
36.	Copper	Between 0.3 & 1.0ppm

The contractor should prepare soil test report for each batch imported on site along with proposed measures, if required, for additives and soil conditioner to maintain pH value of the soil between 7.0 -7.5

before plantation works. Progressive tri-monthly soil test reports shall be maintained for random soil samples taken at rate of one for each hectare of planted area. In addition, the site-in-charge or landscape architects may, at any point of time, direct the contractor to test soil sample from plantation area. Also Contractor shall undertake treatment as per advice of the landscape architects for soil conditioning during the entire maintenance period.

3. Reports

The Contractor shall submit daily report on the deployment details as well as work planned for the day to the Site-In-Charge in prescribed format. All instructions and activities shall be recorded as per the desired format. Any problem or hindrance shall be brought to notice in the daily report along with evidence in form of photographs. Also the contractor shall be required to maintain Stock Register at all times for the planting material sourced to Employer's site and Supply for plantation in the Nursery maintained by the Contractor.

4. Nursery & Maintenance Office Set-up

The Contractor shall be required to set-up a holding nursery for at least 20% of the plants proposed to be planted according to the bill of quantities. Nursery shall be well protected from sun and wind using agronet on temporary MS frame structure and have a full time mali to take care of the plants in nursery. In case of propagation of the plants in the nursery, the same shall be used on site only. Contractor shall also set up an office for its staff adjoining the nursery.

5. De-Composting

Contractor shall mandatorily have De-Composting System developed at appropriate location where all the pruning wastes, organic wastes shall be dumped with weeds, weed seeds or bulbs, stones etc., mix it well in the soil in the ratio (6:1), level as per grade.(point of unloading 0-50m). The process shall be require approval of the site-In-Charge and periodic maintenance of the activity. Approval of site in charge prior to dispatch of material for use on site is must.

6. Maintenance

The Landscape Contractor shall maintain the works for a period of five calendar years from date of completion of installation of the landscape. The Employer reserves the right to terminate the maintenance period at any time, whereby no additional charges are to be made by the Landscape Contractor to the Employer. The Contractor shall adhere to the maintenance schedule. During the maintenance period of all the plants, contractor shall be responsible for any replacement towards mortality and the trees or the area of the plantation under shrubs/creepers/ground covers etc should be in healthy condition during the inspection conducted by the site-in-charge every month. Contractor shall maintain daily record of maintenance & operations on site and submit daily report for all the areas. Contractor shall take note of the observations of the site-in-Charge or his representative/Horticulturist and seek compliance of the same at the earliest before nearest schedule.

7. The extent of the landscape to be maintained by the Landscape

Contractor shall be deemed to cover and include all softscape landscape areas within the overall project boundaries as shown on the drawings including any existing soft landscape not affected by the Sub-Contract works and retained intact or nearly so through the end of the Sub-Contract period as well as all the landscape works covered in the Sub-Contract scope of works. No additional charges will be allowed unless specifically agreed to by the Landscape Architect in writing.

8. Daily Site Inspections

The Landscape Contractor's Horticulturist shall inspect the site every day and shall submit report to the employer on their actions and closure of the pending works. Also on weekly basis, the Contractor's Horticulturist shall prepare a brief schedule of operations planned for the week with target dates.

9. Daily Reports

The daily report and the weekly schedule shall be running record of proposed operations which would be checked at the maintenance inspections every month. If in the opinion of the Landscape Architect/Site-In-Charge, the maintenance works have not been satisfactorily carried out according to site conditions and the specifications, the payment will be withheld until the works have been satisfactorily carried out besides the penalty as in the penalty clause.

10. Plant Maintenance

The Landscape Contractor shall take all necessary measures to ensure that all pot plants, trees and shrubs and other plants shall thrive and become established within this period. All landscape areas will be inspected and list of remedial works issued after each inspection. All items on the remedial lists are to be carried out by the time of the next inspection. The Landscape Contractor shall keep the landscape areas clean and tidy at all times and dispose of all waste materials arising from the cleaning.

If the Landscape Contractors works are found to be unsatisfactory, payment shall be withheld and the maintenance period extended for the period of time that the landscapes maintenance has not been satisfactory. All cost associated with the extension of time shall be borne by the contractor.

The Landscape Contractor shall water all trees, palms, shrubs, groundcover, herbaceous plants and other planting areas as often as necessary or as directed by site-in-charge to keep the ground moist all around and to the full depth of the roots, but never to excessively water the areas.

Complete regular maintenance operations like irrigation, de-weeding, pruning, preventive care, protection of landscape areas, disease management, mortality replacement, regular soil testing, weather recording, nursery management, application of fertilizers and pesticides is included in contractor's scope of work for the entire period of maintenance.

Item No 02:

Supplying and stacking of good earth at site (earth measured in stacks will be reduced by 20% for payment). Good earth shall consist of a free draining organic soil from horizons less than 300mm from the original surface, of a workable crumbly and lump free loamy character and shall contain no grass or weed growth of any kind or other foreign material or stones exceeding 25mm in diameter. Total stone content shall be no greater than 5% by volume. A 1 litre sample with back up soil test data is required before supply, to be approved by EIC. Soil should conform to the following parameters: pH 5.5 - 7.8, Electrical conductivity 1:2.5 (w/v), Soil-water extract not exceeding 1500 micromho/cm, Soil texture Sand (0.05 - 2.00mm) Max. 75% Min. 20%, Silt (0.002 - 0.05mm) Max. 60% Min. 5%, Clay (less than 0.002mm) Max. 30% Min. 5%. Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required for supply and stacking of good earth.

Good earth shall consist of a free draining organic soil from horizons less than 300mm from the original surface, of a workable crumbly and lump free loamy character and shall contain no grass or weed growth of any kind or other foreign material or stones exceeding 25mm in diameter. Total stone content shall be no greater than 15% by volume. A 1 litre sample with back up soil test data is required before installation, or mixing.

The following criteria shall be tested at an approved laboratory before use on site:

- pH 5.5 - 7.8
- Electrical conductivity (in 1:2.5 (w/v) Soil-water extract) not exceeding 1500 micromho/cm
- Soil texture
 - Sand (0.05 - 2.00mm) Max. 75% Min. 20%
 - Silt (0.002 - 0.05mm) Max. 60% Min. 5%
 - Clay (less than 0.002mm) Max. 30% Min. 5%

The earth shall be stacked at site in stacks not less than 50 cm high and of volume not less than 3.0 cum.

Measurement

Length, breadth and height of stacks shall be measured correct to a cm. The volume of the stacks shall be reduced by 20% for voids before payment, unless otherwise described. The rate shall include the cost of excavating the earth from areas lying at distance not exceeding one km. from the site, transporting the same at site breaking of clods and stacking at places indicated. The rate shall also include royalty if payable. The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

Item No 03:

Supplying and stacking of well decayed cow dung manure (cattle manure measured in stacks will reduced by 8% for Payment). Manure shall be well composted, dried, well screened good quality in powdered form. Manure, shall be free from soil clods, fresh mung grass, and dry. Manure should conform to the following parameters: pH 5.5 - 7.8, Electrical conductivity 1:2.5 (w/v), Soil-water extract not exceeding 1500 micromho/cm, Sample will be approved by EIC. Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required for supply and stacking of good earth.

Contractor shall supply only well composted, dried, well screened good quality cow dung Manure in powdered form. Farm Yard Manure, shall be free from soil clods, fresh mung grass, and dry. Sample will be approved by Landscape Architects.

Manure shall conform to following specifications (Contractor to provide test results for each batch sourced from a different location):

- pH 5.5 - 7.8
- Electrical conductivity (in 1:2.5 (w/v) Soil-water extract) not exceeding 1500 micromho/cm

It shall be transported to the site in lorries with efficient arrangement to prevent spilling enroute. It shall be stacked at site. Each stack shall not be less than 50 cm height and volume not less than 3 cum.

Measurement

Length, breadth and depth of stacks shall be measured correct to a cm. The volume of the stack shall be reduced by 8% for looseness in stacking and to arrive at the net quantity for payment. The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

Item No 01:

Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling pit with mixture of good soil and farm yard manure after mixing it in 2:1 proportion (2 parts of good soil : 1 part of farm yard manure), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed (cost of farm yard manure and good earth to be paid for separately) Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC

Item No 78:

Plantation of ground cover, bulbous plants, creeper, palms, bamboos, succulents, shrubs, etc at site including watering and removal of unserviceable materials as per direction of EIC (excluding cost of plant & water) Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC

Item No 79:

Planting trees, flower plants and / or shrubs of specified variety by excavating pits of size 60x60x60cm refilling the same by mixing good earth and farm yard manure in proportion 2:1 (2 parts good earth and 1 part farm yard manure) in the pit, watering and maintaining till well established (about 45 days) complete

Cultivation of the completed beds shall take place only when the seeding or planting operations can begin immediately after cultivation. No cultivation shall be undertaken in weather or ground conditions in which operations may destroy soil structure or where soil mix has not been approved by the Landscape Architect.

Cultivation shall be by approved mechanical or manual means to a depth of 300mm for Ground Cover and 600mm for Shrubs to provide an even, weed free texture.

After cultivation, stone picking from the surface of soil areas shall be carried out such that all stones and lumps exceeding 50mm in diameter are collected. All stones, weeds and rubbish brought up shall be removed from the site to a tip to be found by the Contractor.

Ground cover, rooted shoot and herbaceous beds are to have 25mm solid conditioner spread over the entire area and well forked in to the top 300mm of soil during cultivation. This operation is separate from the mulching specified.

All plants shall be planted to accommodate the spreading root system of the plant to the same soil depth as in the nursery and shall be well watered before removing them from containers. Plants are to be positioned upright and the soil firmed around the roots.

Planting shall be carried out in accordance with the schedule of plants and drawings supplied by the project architect. The number of each species and variety shall be evenly distributed over the area as indicated on the drawings.

For large areas the outer rows are to be set out first to ensure the correct shape to the bed is established. The remaining plants are then to be evenly distributed to cover the planting area. The Landscape Architect is to be notified in advance if there are too many or too few plants to fill the area required and an assessment of setting out adjustments will be directed accordingly.

Setting out of plants is to be completed and approved before planting into the soil bed can commence.

Small shrubs, ground cover and herbaceous plants shall be planted in pockets formed by a trowel or spade. The pocket shall be deep enough and wide enough to accommodate the root of the plant. The sides and base of the pocket shall be loosened and the plant roots lightly loosened from the rootball. The plant shall be placed upright in the pocket and firmed into the ground by backfilling and treading or hand pressure.

The topsoil in areas to receive rooted shoots shall be brought to a fine tilth 75mm deep by approved mechanical means or hand raking. Approved slow release fertilizer shall be applied evenly over the area at a rate of 40gms per square metre and shall be lightly raked into the surface. Rooted shoots shall be firmly bedded into the soil at 75mm centers with each shoot spread on the topsoil surface, separated from adjacent shoots. The area shall be top dressed with finely sifted topsoil/compost mix as approved by the Landscape Architect

to lightly cover the rooted shoots after laying. The ground shall then be firmed by lightly treading or hand pressure around the roots, taking care not to damage the shoots, to ensure good contact with the soil. Watering shall take place immediately after planting, using a fine spray. The firmed-up area is to be tightly cultivated after completion of this operation to leave an even tilth before mulching.

Shrub pits for large and medium shrubs, feature plants and climbers shall be excavated to 150mm wider on either side than the root spread, and to a depth of 150mm deeper than the root depth and shall not be less than 300mm x 300mm x 450mm deep.

The bottom 150mm of the pit is to be forked loose prior to backfilling. Backfill material shall be topsoil for backfilling purposes. The Contractor shall note that for planting into turf areas, where topsoil has not been spread topsoil mix will be required for backfilling purposes.

Climber pits shall be 150 - 200mm away from the supporting structure with the roots spread away from the wall or adjacent supporting structure. The climbing plants shall be trained through the wire mesh with leading shoots directed upwards and tied.

Pits for shrubs and feature plants in planters shall be excavated to 150mm wider on either side than the root spread and to a total depth of the rootball. The bottom of the pit shall be lightly formed, prior to planting taking care not to damage the terrain layer below.

After planting shrubs the area is to be watered immediately to bed the shrubs in. Once the water has percolated away and left the surface relatively dry the soil area is to be lightly forked to loosen the surface and leave an even soil tilth.

Before backfilling, imported topsoil and sand is to be thoroughly mixed with soil conditioner and organic fertilizer as specified for Topsoil Mix.

The tree pit shall be backfilled with the Soil Mix to a depth which will allow soil, after settlement to match surrounding ground level. The filled pit shall be watered and allowed to settle. After settlement soil levels shall be topped up as required.

The centre of the backfilled tree pit shall be excavated large enough to allow placing of the rootball, and to allow even compaction all round during backfilling. After careful removal of the container or wrapping, the rootball of trees shall be placed carefully in the pit, and soil replaced gradually into the pit. The soil is to be consolidated during backfilling in layers to ensure that the plant is firmly held in the ground and that voids are not left around the roots. Care shall be taken during planting to avoid damage to the root system, branches or leaves.

After careful removal of the container or wrapping, the rootball of the roots of shrubs and climbers shall be placed carefully and the soil replaced gradually in the pit. The soil is to be consolidated during backfilling in layers to ensure that the plant is firmly held in the ground and that voids are not left around the roots. Care should be taken during planting to avoid damage to the root system, branches or leaves.

Climber wires for training climbing plants against walls shall be approved lightweight PVC mesh, fixed at 600mm intervals to screw eyes supplied under the sub contract. Maximum mesh coverage shall be 180mm

high x 240mm wide. The climbing plants shall be trained through the wire mesh with the shoots directed upwards and tied.

After planting all plants are to be thoroughly watered using enough water to soak the ground all around the rootball. After watering and the water has percolated away leaving the surface relatively dry the soil is to be lightly cultivated to give an even soil tilth.

After completion of planting and watering and light cultivation operations a 50mm deep layer of approved mulch shall be spread and forked in overall cultivated planting areas. Around each tree and palm and around the base of each climber, additional mulch is to be applied to a 50mm depth to a diameter of 600mm. Mulching is to be done within 2 days of completing planting and watering in.

After a period of settling in of at least one month, all pit planted materials shall be fertilized with an approved slow release fertilizer at the rate of:

Trees: 250gm per tree

Shrubs/climbers: 50gm per plant

Ground Cover/Herbaceous/ Rooted Shoots: 100gm per square meter spread around the base of the plants

All fertilized areas are to be watered immediately after fertilizer application.

The Contractor shall take all necessary precautions to prevent or eradicate any outbreak of disease or insect attack.

Where planting is to be carried out in areas of turf, the turf shall be carefully cut to the size of the tree or shrub pit, rolled and stored for re-use, being kept moist and in shade. After planting the turves shall be re-laid around the base of the plant. The Contractor shall replace at his own expense, any turves which are damaged during planting operations.

The contractor shall be responsible for protecting all planted areas. If it is necessary for the Contractor to erect protective fencing, the Contractor shall be responsible for keeping the fencing in position and in good repair until the end of the maintenance period. Fencing proposals shall be submitted to the Landscape Architect for approval. Post and string fences shall not be acceptable.

After planting and prior to the onset of the maintenance period, the Contractor shall be responsible for carrying out all necessary measures to ensure that the plant material thrives and becomes established and that the landscape areas are kept in a clean and tidy condition.

The Contractor shall allow for carrying out the following maintenance operations when necessary prior to the onset maintenance period:

- Replacement of dead/missing plants
- Grass cutting around trees
- Watering
- Cultivation and loosening of soil
- Weeding
- Pruning and clipping
- Firming up and adjusting stakes and ties
- Eradication of pest or insect attack
- Topdressing and mulching

- Fertilizing

The Contractor shall be responsible for replacing any plants which fail to survive as a result of inadequate maintenance operations, poor workmanship or poor quality of plant material prior to completion.

The Completion Certificate will not be issued until all plants scheduled on the architect Drawings and Schedule of Works are installed in a healthy condition in the manner specified.

The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

Item No 04:

Complete maintenance of the plantation area i.e. lawn trees, shrubs, hedge, flower beds, foliages, creepers etc. including hoeing, weeding pruning replacement of plants, gap filling, watering, mowing of lawn, grass cutting by lawn mover and brush cutter , removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required) top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by EIC (Cost of Good Earth, Manure, Fertilizer, Insecticide , Pesticide, will be provided by the Institution & other T & P material/articles shall be provided by the contractor, as per yard stick 1Mali per acre for 5 years

Item No 05:

Complete maintenance of the plantation area trees including hoeing,weeding pruning replacement of plants, watering, removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required) top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by EIC (Cost of Good Earth, Manure, Fertilizer, Insecticide , Pesticide, will be provided by the Institution & other T & P material/articles shall be provided by the contractor, as per yard stick 1Mali per acre for 5 years

The Contractor shall water all trees, palms, shrubs, ground cover, rooted shoots, herbaceous plants and other planting areas as often as necessary to keep the ground moist all around and to the full depth of the roots of the plants to a minimum depth of saturation of:

100mm for groundcover

300mm for shrubs

750mm for trees

Fresh water only shall be used for the landscape. Water shall be supplied to the Contractor from agreed points on the site. However, it will be only to necessary for the Contractor to supply his own means of transport from the watering points to the plant beds. An inspection of watering requirements is to be made by the Contractor at least two times a week in dry weather.

Water shall be supplied using an approved hose or sprinkler or with an automated irrigation system so as not to cause compaction or wash-outs of the soil or loosening of plants. The Contractor shall immediately make good any such damage, soil erosion or outwash and plants loosened by erosion are to replanted or if damaged, replaced.

All plant beds are to be kept in a weed free condition with a weeding operation once a month. All weeds, stones and rubbish collected from this operation shall be removed from the site to a tip to be found by the Contractor. Herbicides may not be used on this site unless a specific application in writing is made by the

Contractor with full back up data on the performance of the chemicals and the particular need for the chemicals use. Approval will in all cases be subject to the Landscape Architect's decision.

After weeding, at least once per month the soil surface is to be lightly broken up between plants using a pronged fork. Taking care not to disturb the root systems. Maximum depth 100mm. After forking the soil loose, the mulch and loosened soil are to be raked to give an even re-distribution of the mulching materials

Firming up and adjusting of stakes/ties shall be carried out monthly to ensure that the trees and shrubs are firmly held in the ground. If required guy ropes or tree pits shall be adjusted, tightened or loosened. If tree ties or ropes are rubbing the bark of the trees, the ties are to be taken off and retied. Any damaged branches are to be carefully pruned and the wounds sealed.

All protective fencing is to be maintained and kept in good condition and in position until the end of the maintenance period.

Trees shall be pruned if dead, rotten or crossed branches are present or to maintain a clear stem up to the specified height using the methods described below. Tree pruning is to be reviewed monthly.

All shrubs and ground covers are to be reviewed monthly and pruned as and when required during the Maintenance Period to promote bushy growth and good flowering characteristics. The shrubs shall be checked and all dead wood, broken, damaged or crossed branches shall be cut back, depending on species. Pruning and removal of branches is to be carried out using sharp clean implements to give a clean sloping cut with one flat face. Ragged edges of bark or wood are to be trimmed with a sharp knife.

Pruning for all plants shall be carried out as follows:

- Pruning is to be done with the cut just above and sloping away from an outward facing health bud.
- Removal of branches is to be done by cutting flush with the adjoining stem and in such a way that no part of the stem is damaged or torn.
- Ragged edges of bark are to be trimmed with a sharp knife.
- Any cuts or wounds over 25mm diameter are to be painted with an approved sealant after trimmed.
- All pruning to be cleared up and removed from site after pruning.

All hedges, mat forming herbaceous plants and ground cover plants shall be clipped with shears as often as necessary (at least monthly) to maintain a tidy appearance. Tall hedges are to be cut to forms shown on the drawings. Fertilizer is to be applied to clipped areas around 1-2 weeks after clipping.

Selective pruning of flowering plants shall be done where special flowering characteristics are required such as for Ixoras, Hibiscus, Allamanda where flowering takes places on twig ends. Heavy clipping must not be used for these species since this will remove future flower buds. Selective pruning by clipping non-flowering twigs and leaving flowering twigs is necessary for these plants, and this operation must be done by experienced workers.

The Contractor shall allow for monthly fertilizer operations during the Maintenance Period. An approved slow release fertilizer shall be applied to each plant at the rate of 50gm per shrub and 200gm per tree, one month after planting and thereafter monthly. After spreading the fertilizer around the base of the plant the granules shall be lightly forked into the soil, and the plant well-watered. Herbaceous and ground cover areas shall

receive 25mm of approved soil conditioner, evenly spread and mixed with 50gm/m² of approved slow release fertilizer, evenly spread over entire area and lightly forked into the soil to break up the top layer, and the area well-watered on a month by month basis.

The horticultural requirements of different plants or areas may involve variations to those techniques (such as the use of organic liquid fertilizers for sensitive plants) and variations in method will be authorized as required.

Heavy feeding plants such as Canna, Heliconia and Lantana shall be dressed with a 25mm mulch of approved organic compost or similar approved compost every 2 months, lightly forked in around the base of the plants.

Additional mulching layer, 25mm deep to be spread and forked in overall planted areas at 3 monthly intervals.

The Contractor shall make regular weekly checks to ensure that the plant material is insect and pest and fungus free. No pesticides may be used unless approval from the Landscape Architect is given from the Contractor stating the chemical intended for use; concentration, spraying program and including full technical details of the product.

The Contractor shall mow all lawn areas using approved cutting equipment to maintain a close sward to a height of not less than 20mm and not more than 30mm for all grass types. Mowing shall be carried out generally weekly, ex in dry weather and grass shall not be allowed to flower between cuts. Weekly inspections are to be made to ensure adequate planning of grass cuts to suit growth and weather conditions. All clippings to be gathered up and removed.

All grass areas are to be watered by means of sprinklers during dry weather as often as is required to keep the grass green and the soil moist. The Contractor shall provide hoses and sprinklers for use from water points provided by others. Weekly inspections are to be made to determine the need for water and, in dry weather watering must be done to moisten the soil to a depth of 100mm.

Fertilizer of NPK value 10-15-15 or similar approved be spread at a rate of 40gm/sq m over all grass areas at monthly intervals, using approved spreading equipment to give an overall even spread. Grass areas that have been fertilised shall be watered if no rain falls within 24 hours.

The Contractor shall apply topdressing of not more than 15mm depth fine sand and granulated compost raked and spread evenly over the lawn areas. The next topdressing shall be applied only after the grass has grown through to a mowable height.

There shall be at least two applications of topdressing during the maintenance period, to be directed by the Landscape Architect. If depressions or bumps over 25mm deep or high in turf areas during the maintenance period these are to be levelled out by lifting the turf and raising the soil level with sand/compost mix or trimming to level grades, followed by returfing.

Grass areas are to be kept free of weeds, annual grasses, fungus and insect attack and free of stones or other debris throughout the maintenance period as often as is required. All chemicals used shall be to the approval of the Landscape Architect. Assessment of these operations is to be prepared on the basis of the weekly maintenance inspection chart.

If compaction or consolidation takes place or hard passing or baking of the soil occurs, the soil areas are to be well watered first and lightly loosened by mechanical means such as spiking, slitting or hollow tinning using equipment approved by the Landscape Architect.

The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

Item No 06:

Staking of trees, palms and large shrubs using quadrapod staking made of 4 nos bamboo 2.5 metre long, fixed 0.3m in the soil and joined at 2/3 height of plant stem using jute rope, fixed to plant using rubber sheath; plant stem to be covered with gunny / jute cloth at fixing point to prevent damage, complete including all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC

Stakes shall always be used when planting trees and single stem palms. Stakes shall be in bamboo and be carried out according to the size of plant to be supported.

Four stakes each 25mm diameter section shall be positioned equidistantly around the tree and firmly driven into the ground at angles of between 30 - 40 degrees from the vertical. The inner ends of the stakes shall extend beyond the tree stem by not more than 150mm and shall not be higher than 300mm below the lowest branch. The tree stem shall be wrapped in gunny sacking at the point where the tree stakes are to be fastened in order to prevent bark damage. The stakes shall be neatly and firmly fastened to the tree stem using rubber hose or cord. String is not be used. The stakes are to be adjusted and the position of the protective wrapping is to be altered up or down every month. The gunny sack wrapping is to be sprayed with an approved horticultural pesticide.

Measurement

Measurement shall be in number of trees / palms staked, inclusive of all material, labour, equipment, transport as directed by EIC

Item No 32-70:

Supply of Trees - well developed, well branched crown - 4-6 branches each having 4-5 leaves, well developed (Poly bag size - 30"x 30", min. stem diameter 50mm and height as specified) Trees shall be large size nursery grown trees pruned during growth to produce a tight well rounded head and a straight stem clear of leaves or twigs. Trees shall be at least two years old, as certified by the nursery. Trees shall be 70-100 mm circumference stem when measured 1.0m from ground level and shall have a clear straight stem of minimum 1.2m. The head shall be well balanced and rounded and contain at least four main branches with a well-developed secondary branch system and a defined central leader that has not been pruned, giving a minimum overall height of 1.5m at the time of planting. Rootball dimensions : diameter 750mm x 750mm deep minimum. Branching/leaf spread 1.5 - 1.8m diameter. Pruning at the time of removal from the nursery will not be permitted. In dry weather conditions, trees are to be sprayed with approved Anti-transpirant. Trees shall have a strong fibrous root system. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}

Trees shall be large size nursery grown trees pruned during growth to produce a tight well rounded head and a straight stem clear of leaves or twigs. Trees shall be at least three years old, as certified by the nursery. Trees shall be 70 - 100mm circumference stem when measured 1.2m from ground level and shall have a clear straight stem of minimum 1.2mm. The head shall be well balanced and rounded and contain at least four main branches with a well-developed secondary branch system and a defined central leader that has not been pruned, giving an overall height of 14' – 16' at the time of planting. Pruning at the time of removal from the nursery will not be permitted. In dry weather conditions, trees are to be sprayed with approved Anti-transpirant. Rootball dimensions : diameter 750mm x 750mm deep minimum. Branching/leaf spread 1.5 - 1.8m diameter. Trees shall have a strong fibrous root system.

Measurement

Plants shall be supplied in numbers, each plant supplied in a separate polybag. Contractor shall be paid only his profit as per Department standards over the nursery price list – base prices of plants being specified in the bill of quantities, inclusive of all material, labour, equipment, transport as directed by EIC

Item No 71-72:

Supply of Palms - well developed, well developed, disease free (Poly bag size - 18"x 18") Palms shall have heights as either 1.2m-1.5m. For single stemmed palms, the clear trunk height shall be atleast 80% of specified height, and stem girth shall be of dimension normally found for palms for the stem height and species specified. Acceptable tolerances to variations in stem height shall be +200mm or -200mm from the height specified in the Bills of Quantities. The heads of palms shall be well balanced with at least 7 leaves and a healthy growing apical shoot all free from pest and disease. Rootball dimensions shall be 450mm diameter x 450mm depth. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}

Palms shall have heights as stated in Bill of Quantities. For single stemmed palms, the clear trunk height shall be atleast 80% of specified height, and stem girth shall be of dimension normally found for palms for the stem height and species specified.

Acceptable tolerances to variations in stem height shall be +200mm or -200mm from the height specified in the Bills of Quantities.

The heads of palms shall be well balanced with at least 7 leaves and a healthy growing apical shoot all free from pest and disease. Rootball dimensions shall be 450mm diameter x 450mm depth.

Measurement

Plants shall be supplied in numbers, each plant supplied in a separate polybag. Contractor shall be paid only his profit as per Department standards over the nursery price list – base prices of plants being specified in the bill of quantities, inclusive of all material, labour, equipment, transport as directed by EIC

Item No 73:

Supply of Ground covers / creepers - well developed, min. 0.15m high, in polybag of 5"x7" size, disease free. All groundcover species shall be evenly balanced to allow equal growth in all directions. Plants shall have fully developed roots and leaves. Rooted cuttings will not be accepted. All plants to be container grown. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}

This category shall include herbaceous plants, ground covers and creepers. All plants shall be of minimum 0.15m height, well branched, minimum 5-7 leaves / sheaths and supplied in polybags of size 5"x7".

Herbaceous Plants are non-woody perennials usually of a clump forming habit. Plants shall have a well-developed main stem or stems with good symmetry, a healthy root system, free from pest or disease. Clumps of herbaceous plants shall include rhizomes, corns, tubers or roots and soil undisturbed by lifting with evidence of growing shoots emerging above soil level. All herbaceous plants are to be grown in containers unless specified as being produced by alternative method.

Groundcover plants are low growing, 500mm or less, or prostrate shrubs or herbaceous plants whose habit is to totally cover the soil. All groundcover species shall be evenly balanced to allow equal growth in all directions. Plants shall have fully developed roots and leaves. Rooted cuttings will not be accepted. All plants to be container grown.

Rooted shoots of certain spreading ground cover plants shall be used only where specified, planted as 'sprigs' as opposed to established plants in soil. Plants shall be rooted shoots and shall have at least one shoot of the minimum dimensions stated in the Schedule of Works and evidence of vigorous root growth. Recent cuttings with no root development shall not be acceptable.

Creepers are plants whose growth habit is to creep on the ground. Plants shall be grown to reach the recommended size using stocks no less than one year old, and no more than five years old at the time of the start of the contract. Plants shall have at least two leader shoots up to the recommended height and a vigorous root system. All plants to be container grown.

Measurement

Plants shall be supplied in numbers, each plant supplied in a separate polybag. Contractor shall be paid only his profit as per Department standards over the nursery price list – base prices of plants being specified in the bill of quantities, inclusive of all material, labour, equipment, transport as directed by EIC

Item No 07:

Supply of Shrubs - well developed, well branched - 3-4 branches each having 4-5 leaves, preferably in bloom, in polybag of 30x20cm size, disease free and development (height 0.75-0.9m) Shrubs are woody perennials of generally multi stemmed and bushy habit ranging from 3 - 4.5m down to 500mm height. Shrubs shall have no less than three main stems and shall be well balanced and bushy, with strongly developed fibrous root systems, and shall be pruned in advance as required to achieve the specified height tolerances. Branches shall break from the base of the plant just above the root collar, and shall be well furnished with leaves right down to ground level. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}

Shrubs are woody perennials of generally multi stemmed and bushy habit ranging from 3 - 4.5m down to 500mm height. Shrubs shall have no less than three main stems and shall be well balanced and bushy, with strongly developed fibrous root systems, and shall be pruned in advance as required to achieve the specified height tolerances. Branches shall break from the base of the plant just above the root collar, and shall be well furnished with leaves right down to ground level. All plants are to be container grown in containers of suitable dimensions for the species.

Shrubs supplied shall be at least 0.75-.0.9m height, in polybags of 10"x12". Shrubs shall be well branched with at least 5-7 leaves on each branch, disease free.

Measurement

Plants shall be supplied in numbers, each plant supplied in a separate polybag. Contractor shall be paid only his profit as per Department standards over the nursery price list – base prices of plants being specified in the bill of quantities, inclusive of all material, labour, equipment, transport as directed by EIC

Item No 80:

Supply and Installation of GeoGrid comprise biaxial geogrids manufactured from select grades of high tenacity, high molecular weight, and low carboxyl end group polyester yarn to ensure high strengths, low creep and excellent durability. The yarns are formed into a dimensionally stable grid structure with uniform apertures, using an advanced weft insertion warp knitting process and are then given a tough and durable polymeric coating to enhance dimensional stability, resistance to installation damage and durability. **GeoGrid 60 x 60 KN & including installation.**

Geogrid shall consists of biaxial grids manufactured from polyester yarn of high tenacity, high molecular weight, low carboxyl end group. Geogrid shall confirm to following properties:

Property		Test Method	TGB-60
Ultimate tensile strength ¹ (kN/m)	MD	ASTM D 6637 EN ISO -10319	60
	CD		60
Elongation at break ² (%) (Tolerance ± 4)	MD		13
	CD		13
Tensile strength at 2 % strain (kN/m) ²	MD		11
	CD		9.5
Tensile strength at 5 % strain (kN/m) ²	MD		20
	CD		17
Aperture size (mm)		MD x CD	25 x 25

1 Minimum average roll value 2 Typical value MD – Machine Direction CD – Cross Direction.

<i>Standard Roll Dimensions</i>	Roll length (m)	50 / 100
	Roll width (m)	2.5 / 5.0

Area where geogrid is to be installed shall be cleaned of any debris and loose soil. Geogrid shall be unrolled from top to bottom, starting about 1m away from top and anchored at both ends as well as intermediately as per manufacturer's specifications.

Measurement

Measurement shall be in square metres of area covered on site by geo-grid. This work shall include transport, loading, installation and soil filling around the pipe. The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

Item No 81:

Supply & installation of Coir based Geotextile 700 gsm conforming to IS 15868 : Part 1 to 6, for covering top of erosion prone slopes or embankments as per IS 15872:2009; fixed to the ground with SS staples of 11 guage diaMetre and 220mm length at every 0.50m to 0.75m in longitudinal and transverse direction including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge

Material shall be supplied conforming to IS 15868: Part 1 to 6. Contractor is required to provide certification for the same along with sample of material for approval of Engineer-in-Charge before supply of material to site.

This item shall be carried out for coir geotextile lining works of excavated areas surrounding water body, as per IS15872:2009 - Application of Coir Geotextiles (Coir Woven Bhoovastra) for Rain Water Erosion Control in Roads, Railway Embankments and Hill Slopes – Guidelines.

Geotextile shall be unrolled downhill from top of slope to be applied.

Overlaps on all sides between two geotextile pieces shall be minimum 15 cm.

Coir geotextile shall be clamped on the steep slopes using U shaped Stainless Steel staples, having minimum 220 mm length and 11 gauge. Geotextile shall be pinned to the ground using these staples at every 0.50m to 0.75m in longitudinal and transverse direction.

Measurement

Measurement shall be in square metres of area covered on site by coir-geotextile lining. This work shall include transport, loading, installation and soil filling around the pipe. The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, removal of debris to local specified within the site, involved in all the operations described above.

Item No 82:

Providing , installing and testing 63 mm PN 6 PE 80 HDPE Pipe IS 4984 With fittings as per the specification including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge

High Density Polyethylene (HDPE) Pipes and Fittings

Material Specification:

HDPE pipes to be supplied under this Contract shall conform with relevant Indian Standards. All plain end fittings for butt fusion welding shall be made from pipes of the same pressure rating, (PN6), dimensions, shape and performance and shall comply with relevant Indian Standards.

Jointing of Pipes and Valves:

Pipe jointing shall be carried out in accordance with the manufacturer's procedures. Pipe's fittings shall be supplied by the same manufacturer as the pipe or from other manufacturer recommended by the pipe manufacturer.

Whenever pipe connects to equipment valves or other unit needing maintenance, servicing or possible removal, flange the connecting joints. Match the pressure rating of the flanges on the equipment to which the piping connects. Flanges with galvanized steel or bronze backing rings shall be provided for connection to flanged valves and equipment.

All piping shall be accessible for repair and inspection when so required.

All pipes, fittings, valves and accessories shall be thoroughly cleaned both externally and internally before their installation and again where necessary before closing up.

After installation and before putting into service, all pipework including fittings, valves and accessories shall be thoroughly cleaned internally. The interior of all pipes and drip lines shall be free of any foreign bodies, tools, grit, scale, dirt, plaster, chips and suchlike.

The Contractor must examine the substrates and the conditions under which the irrigation system works are to be carried out and correct any unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

Unless otherwise specified herein or indicated on drawings, comply with the requirements of the specifications for excavation and trench preparation.

Pressure and leakage tests for pipe lines - except or otherwise directed, all pipelines are to be given pressure and leakage tests in sections of approved length. Such tests are to be carried out by the Contractor after the partial trench back filling has been carried out over the pipe barrel, excluding pipe joints, in order that pipes are not displaced during testing and that joints are apparent for inspection.

The Contractor may at his option carry out any preliminary tests he considers necessary before trench backfilling in addition to the pressure and leakage tests specified herein.

The Contractor is to furnish and install suitable and approved temporary plugs, supports and caps, all necessary pumps, pipe connections, meters, gauges and other necessary equipment and labour required. The contractor is also to provide and satisfactorily dispose of all water for testing.

The section of the pipe to be tested is to be filled with water of approved quality, and all air is to be expelled from the pipe. If blow-offs are not available at high points for releasing air, the contractor is to carry out the necessary excavation, backfilling tapping at such high points and plug and make good any damage after completion of the test.

The section under test is to be maintained full of water for a period of 24 hours prior to the start of the pressure and leakage test.

The pressure and leakage test is to consist of first raising the water pressure (based on the lowest elevation of the lowest point of the section under test and corrected to the gauge location) to a pressure equal to 1.5 times of the operating pressure. While maintaining this pressure, the Contractor is to make a leakage test by metering the flow of water into the pipe. If the average leakage during a two-hour period exceeds a rate of 210 litres per 35mm diameter per 24 hours per kilometre of pipeline, the section shall be considered as having failed the test. Furthermore, the pipeline shall have no visible leakage.

If the section shall fail to pass the pressure test, or the leakage test, or both, the Contractor shall at his own cost do all work of locating and repairing the leaks, removal and replacement of defective pipes, joints, couplings, or fittings, making good and retesting as the Employer's Representative may require and to his satisfaction. The Contractor shall be responsible for the ultimate tightness of the pipeline within the test requirements stipulated hereinabove.

Item No 83:

Providing and installing INLINE Drip Pressure Compensating 16mm 3.6 LPH, 4 Bar Pressure Rating, 1.2mm Thickness, including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge

4 Bar Pressure Rating, 1.2mm Thickness, Brown Color The flexible polyethylene tubing shall have factory installed pressure-compensating, inline emitters installed every 18 inches. The flow rate from each installed inline emitter shall be 3.6 Litres per hour when inlet pressure is between 8.5 and 60 psi. The inline emitter diaphragm shall have a pressure-regulating diaphragm with a spring action allowing it to self-rinse if there is a plug at the outlet hole. The bend radius shall be 3 inches whether bending the tubing with the natural bend of the coil or against it. The inline emitter inlet shall be raised off the inside tube wall to minimize dirt intrusion.

Mode of Measurements and Payment:

The rate includes all labour, materials, tools and plant, etc., required for satisfactory completion of this item. The rate shall be for running metres of drip line installed.

Item No 84:

Providing and installing 2" PVC Ball Valve as per the specification, including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge

All valve of specified dia shall as per above and relevant specifications of plumbing materials. Its fittings shall conform to the relevant IS or international codes. All material shall be of 1st quality of approved make or equivalent, as certified by the Engineer-in-charge.

Workmanship:

All valves shall be fully cleared of all foreign matter, before fixing. The fixing of valve with flanged ends shall be done by means of bolts, nuts and 3 mm rubber insertions, with counter flanges drilled to the same specifications. The jointing shall be leak proof. All valves should be covered with Valve Boxes or Chambers.

Mode of Measurements and Payment:

The rate includes all labour, materials, tools and plant, etc., required for satisfactory completion of this item. The rate shall be for a unit of no.

5 BILL OF QUANTITIES

Tender BOQ is suggestive and similar type of plants/shrubs/trees implementation would be required at the time of implementation by the shortlisted bidder.

Bill of Quantities						
Item No.	SOR / MR	Description	Unit	Quantity	Rate	Amount
1	MR01	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling pit with mixture of good soil and farm yard manure after mixing it in 2:1 proportion (2 parts of good soil : 1 part of farm yard manure), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed (cost of farm yard manure and good earth to be paid for separately) Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC	Cum	23,022		
2	MR02	Supplying and stacking of good earth at site (earth measured in stacks will be reduced by 20% for payment). Good earth shall consist of a free draining organic soil from horizons less than 300mm from the original surface, of a workable crumbly and lump free loamy character and shall contain no grass or weed growth of any kind or other foreign material or stones exceeding 25mm in diameter. Total stone content shall be no greater than 5% by volume. A 1 litre sample with back up soil test data is required before supply, to be approved by EIC. Soil should conform to the following parameters: pH 5.5 - 7.8, Electrical conductivity 1:2.5 (w/v), Soil-water extract not exceeding 1500 micromho/cm, Soil texture Sand (0.05 - 2.00mm) Max. 75% Min. 20%, Silt (0.002 - 0.05mm) Max. 60% Min. 5%, Clay (less than 0.002mm) Max. 30% Min. 5%. Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required for supply and stacking of good earth.	Cum	7,233		

3	MR03	Supplying and stacking of well decayed cow dung manure (cattle manure measured in stacks will reduced by 8% for Payment). Manure shall be well composted, dried, well screened good quality in powdered form. Manure, shall be free from soil clods, fresh mung grass, and dry. Manure should conform to the following parameters: pH 5.5 - 7.8, Electrical conductivity 1:2.5 (w/v), Soil-water extract not exceeding 1500 micromho/cm, Sample will be approved by EIC. Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required for supply and stacking of good earth.	Cum	3,617		
4	MR04	Complete maintenance of the plantation area i.e. lawn trees, shrubs, hedge, flower beds, foliages, creepers etc. including hoeing,weeding pruning replacement of plants, gap filling, watering, mowing of lawn, grass cutting by lawn mover and brush cutter , removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required) top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by EIC (Cost of Good Earth, Manure, Fertilizer, Insecticide , Pesticide, will be provided by the Institution & other T & P material/articles shall be provided by the contractor, as per yard stick 1Mali per acre for 5 years	sqm	10,536		
5	MR05	Complete maintenance of the plantation area trees including hoeing,weeding pruning replacement of plants, watering, removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required) top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by EIC (Cost of Good Earth, Manure, Fertilizer, Insecticide , Pesticide, will be provided by the Institution & other T & P material/articles shall be provided by the contractor, as per yard stick 1Mali per acre for 5 years	each	5,043		
6	MR06	Staking of trees, palms and large shrubs using quadrapod staking made of 4 nos bamboo 2.5 metre long, fixed 0.3m in the soil and joined at 2/3 height of plant stem using jute rope, fixed to plant using rubber sheath; plant stem to be covered with gunny / jute cloth at fixing point to prevent damage, complete including all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC	Each	5,043		

7	MR07	Supply of Shrubs - well developed, well branched - 3-4 branches each having 4-5 leaves, preferably in bloom, in polybag of 30x20cm size, disease free and development (height 0.75-0.9m) Shrubs are woody perennials of generally multi stemmed and bushy habit ranging from 3 - 4.5m down to 500mm height. Shrubs shall have no less than three main stems and shall be well balanced and bushy, with strongly developed fibrous root systems, and shall be pruned in advance as required to achieve the specified height tolerances. Branches shall break from the base of the plant just above the root collar, and shall be well furnished with leaves right down to ground level. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}				
8	MR07	Acalypha hispida (Cat tail) [0.6m]	each	840		
9	MR07	Agave americana (large agave) [0.6m]	each	420		
10	MR07	Aloe vera (aloe) [0.3m]	each	1,680		
11	MR07	Asystasia gangetica (kaligharani) [0.45m]	each	840		
12	MR07	Capparis decidua (kerad) [0.45m]	each	420		
13	MR07	Cassia alata (aval) [0.6m]	each	840		
14	MR07	Cassia auriculata (Dadmurdan) [0.6m]	each	959		
15	MR07	Commiphora wightii (gugal) [0.6m]	each	420		
16	MR07	Cordia perotii (pat liyar) [0.3m]	each	420		
17	MR07	Euphorbia caducifolia (thor) [0.6m]	each	420		
18	MR07	Euphorbia milli (crown of thorns) [0.3m]	each	840		
19	MR07	Furcraea gigantea (furcraea large) [0.6m]	each	420		
20	MR07	Grewia tenax (gangeti) [0.3m]	each	924		
21	MR07	Grewia villosa (luskka) [0.3m]	each	924		
22	MR07	Jasminium sambac (mogra) [0.6m]	each	1,680		
23	MR07	Nerium oleander pink (moti kaner) [0.6m]	each	1,680		
24	MR07	Nerium oleander white (moti kaner) [0.6m]	each	1,680		
25	MR07	Sansevieria trifasciata (sansevieria) [0.3m]	each	1,680		
26	MR07	Yucca oloifolia (yucca) [0.6m]	each	840		
27	MR07	Bambusa ventricosa (buddha belly bamboo) [1.2m]	each	840		
28	MR07	Bambusa vulgaris (golden bamboo) [1.2m]	each	840		
29	MR07	Cenchrus ciliaris (dhaman) [0.6m]	each	840		
30	MR07	Dendrocalamus strictus (indian bamboo) [0.6m]	each	840		
31	MR07	Desmostachya bipinnata (dabhado) [0.6m]	each	840		
32	MR07	Nelumbo nucifera (kamal) [0.3m]	each	1,092		

33	MR08	Supply of Trees - well developed, well branched crown - 4-6 branches each having 4-5 leaves, well developed (Poly bag size - 30"x 30", min. stem diameter 50mm and height as specified) Trees shall be large size nursery grown trees pruned during growth to produce a tight well rounded head and a straight stem clear of leaves or twigs. Trees shall be at least two years old, as certified by the nursery. Trees shall be 70-100 mm circumference stem when measured 1.0m from ground level and shall have a clear straight stem of minimum 1.2m. The head shall be well balanced and rounded and contain at least four main branches with a well-developed secondary branch system and a defined central leader that has not been pruned, giving a minimum overall height of 1.5m at the time of planting. Rootball dimensions : diameter 750mm x 750mm deep minimum. Branching/leaf spread 1.5 - 1.8m diameter. Pruning at the time of removal from the nursery will not be permitted. In dry weather conditions, trees are to be sprayed with approved Anti-transpirant. Trees shall have a strong fibrous root system. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}	each			
34	MR08	Acacia catechu (goradiyo baval) [1.2m]	Each	63		
35	MR08	Acacia leucophloea (hermo baval) [1.2m]	Each	63		
36	MR08	Acacia nilotica (baval) [1.2m]	Each	63		
37	MR08	Achras sapota (chickoo) [1.2m]	Each	126		
38	MR08	Aegle marmelos (bili) [1.2m]	Each	84		
39	MR08	Ailanthus excelsa (arduso) [1.8m]	Each	84		
40	MR08	Albizia lebbeck (siris) [1.8m]	Each	126		
41	MR08	Albizia Procera (siris) [1.8m]	Each	126		
42	MR08	Annona squamosa (sitafal) [1.2m]	Each	158		
43	MR08	Azadirachta indica (neem) [1.8m]	Each	210		
44	MR08	Balanites roxburghii (hingot) [1.2m]	Each	84		
45	MR08	Bauhinia racemosa (asundro) [1.8m]	Each	210		
46	MR08	Boswellia serratta (saledi) [1.2m]	Each	84		
47	MR08	Butea monosperma (khakharo) [1.8m]	Each	126		
48	MR08	Caesalpinia coriaria (divi divi) [1.2m]	Each	84		
49	MR08	Cassia Fistula (amaltas) [1.8m]	Each	158		
50	MR08	Cassia siamea (kasood) [1.8m]	Each	189		
51	MR08	Cordia gharaf (gondni) [1.8m]	Each	84		

52	MR08	Dichrostachys cineraria (Mordhundhyu) [1.2m]	Each	84		
53	MR08	Emblica officinale (amla) [1.8m]	Each	210		
54	MR08	Gliricidia maculata (quickstick) [1.2m]	Each	126		
55	MR08	Holoptelea integrifolia (kanju) [1.8m]	Each	126		
56	MR08	Limonia acidissima (kaith) [1.2m]	Each	53		
57	MR08	Manilkara Hexandra (rayan) [1.8m]	Each	189		
58	MR08	Millingtonia hortensis (neem chameli) [1.8m]	Each	126		
59	MR08	Moringa oleifera (saragvo) [1.8m]	Each	189		
60	MR08	Peltophorum pterocarpum (peelo gulmohar) [1.8m]	Each	158		
61	MR08	Pongamia pinnata (karanj) [1.8m]	Each	189		
62	MR08	Prosopis cineraria (khejri) [1.8m]	Each	189		
63	MR08	Punica granatum (dadam) [1.2m]	Each	210		
64	MR08	Samanea Saman (raintree) [1.8m]	Each	105		
65	MR08	sapindus trifoliatus (aritha) [1.2m]	Each	53		
66	MR08	Syzygium cuminii (jamun) [1.8m]	Each	210		
67	MR08	Tecomella undulata (ragat rohido) [1.2m]	Each	126		
68	MR08	Terminalia arjuna (arjun) [1.8m]	Each	105		
69	MR08	Terminalia catappa (badam) [1.8m]	Each	105		
70	MR08	Thespesia populnea (paras piplo) [1.8m]	Each	126		
71	MR08	Zizyphus jujube (bor) [1.2m]	Each	53		
72	MR09	Supply of Palms - well developed, well developed, disease free (Poly bag size - 18"x 18") Palms shall have heights as either 1.2m-1.5m. For single stemmed palms, the clear trunk height shall be atleast 80% of specified height, and stem girth shall be of dimension normally found for palms for the stem height and species specified. Acceptable tolerances to variations in stem height shall be +200mm or -200mm from the height specified in the Bills of Quantities. The heads of palms shall be well balanced with at least 7 leaves and a healthy growing apical shoot all free from pest and disease. Rootball dimensions shall be 450mm diameter x 450mm depth. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}	each			
73	MR09	Phoenix dactylifera (date palm) [1.8m]	Each	189		

74	MR10	Supply of Ground covers / creepers - well developed, min. 0.15m high, in polybag of 5"x7" size, disease free. All groundcover species shall be evenly balanced to allow equal growth in all directions. Plants shall have fully developed roots and leaves. Rooted cuttings will not be accepted. All plants to be container grown. Supply shall include labour & equipment cost of loading, unloading, transport to site, storage & stacking within site in area protected from dust using temporary agronet, watering & maintenance at stacking area until planted as directed by EIC Botanical Name [Common name] {Height}				
75	MR10	Bouganvillea (Bouganvillea) [0.6m]	Each	6,377		
76	MR10	Ipomoea purpurea (morning glory) [0.6m]	Each	5,250		
77	MR10	Quisqualis indica (madhu malti) [0.6m]	Each	5,250		
78	MR10	Wedelia trilobata (wedelia) [0.6m]	Each	5,250		
79	MR11	Plantation of ground cover, bulbous plants, creeper, palms, bamboos, succulents, shrubs, etc at site including watering and removal of unserviceable materials as per direction of EIC (excluding cost of plant & water) Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC	each	44,254		
80	MR12	Planting trees, flower plants and / or shrubs of specified variety by excavating pits of size 60x60x60cm refilling the same by mixing good earth and farm yard manure in proportion 2:1 (2 parts good earth and 1 part farm yard manure) in the pit, watering and maintaining till well established (about 45 days) complete	nos	5,043		
81	MR13	Supply and Installation of GeoGrid comprise biaxial geogrids manufactured from select grades of high tenacity, high molecular weight, and low carboxyl end group polyester yarn to ensure high strengths, low creep and excellent durability. The yarns are formed into a dimensionally stable grid structure with uniform apertures, using an advanced weft insertion warp knitting process and are then given a tough and durable polymeric coating to enhance dimensional stability, resistance to installation damage and durability. GeoGrid 60 x 60 kN/m & including installation. including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge	Sqm	5,422		

82	MR14	Supply & installation of Coir based Geotextile 875 gsm conforming to IS 15868 : Part 1 to 6, for covering top of erosion prone slopes or embankments as per IS 15872:2009; fixed to the ground with SS staples of 11 guage diaMetre and 220mm length at every 0.50m to 0.75m in longitudinal and transverse direction including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge	Sqm	5,422		
83	MR15	providing , installing and testing 63 mm PN 6 PE 80 HDPE Pipe IS 4984 With fittings as per the specification including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge	rm	2,104		
84	MR16	Providing & installing INLINE Drip Pressure Compensating 16mm 3.6 LPH, 4 Bar Pressure Rating, 1.2mm Thickness,including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge	rm	37,546		
85	MR17	providing and installing 2" PVC Ball Valve as per the specification,including supply of all material, labour and equipment as required, upto any lead and lift; as directed by Engineer-in-Charge	nos	52		
86	MR18	Supply and installation of Fibreglass planters of size 0.3m diameter x 0.2m high, design as approved by Design Consultant. Item includes all royalty, equipment, labour, loading, unloading, and carriage upto any lead & lift required as directed by EIC	nos	1,092		
87		Drilling of Tube well in rocky area (mostly sand with loose over burden up to 3-4 m depth) by manning DR/RR rig -200 mm size inclusive rammining, etc as required : a) Drilling of Tube well		240		
88		b) Cement Sealing		2		
89		c) Bottom Sealing		2		
90		Gravel packing as required best quality "Sevalia" Site- size 4mm to 6mm, loading, carting -unloading, stacking etc.		10		
91		Hiring Air-compressor for development and assessing yield of water with machinery, necessary man-power, fuel etc. capacity 1100 CFM/250 PSI		16		
92		Providing, MS ERW plain and medium duty Pipe conforming to IS: 4270/1992 and subsequent amendment in a suitable length, Tata / Zindal make-200 mm size-(minimum thickness 5.82 mm) length may vary		240		

93		Providing and fixing the following related accessories				
94		Clamp made from MS plate with 3 holes on either side with bolts & nuts of standard make and suitable size 750 X 75 X 10 mm flat to 200mm pipe		2		
95		Bore plug having 100 mm height made from plate with 3 holes at equal distance on circumference, nuts, bolts, locking arrangement, with nuts and bolts of standard make- from 5 mm thick M.S. plate		2		
96		Reducers made from 6 mm thick M.S. plate for ERW pipes for				
97		(i) 150 x 200 mm x 600 mm length		2		
98		(ii) 200 x 250 x 600 mm Length		2		
99		MS bail plug having length of 0.45 m from medium class pipe as per relevant IS: 200 mm		2		
100		Steel bent plate suitable to ERW pipe as per below for 200 mm pipe-200 x 150 x 6 mm		2		
101		Conducting Geophysical & Geohydrological survey for identifying sites of tube wells to obtained portable water by conducting 3 point conductivity test using appropriate instruments. The scope also includes assessing underground stata, respective thickness, water yielding stata, quality aspect and all other related inputs to ascertain reliable, tube well drilling site. Minimum 4 sites are required to be investigated to obtained representative data.		3		
102		Supplying at site of work approved make electrical moter driven submersible pump set conforming to IS 8034/ 198 and motor conforming to IS 9283:-1979 working at 3 phase-400/440volt 50C/S AC supply and 2900 RPM. Capacity of each pump set : (_10m3/hr._) Head : (_70 mtr._)		2		
103		Control Pannel board as per the specification of GWSSB R/C7.5hp. DOL		2		
104		Flate PVC cabel for Sub. Pump Detail specification as per the GWSSB.: 1 x 3 x 2.5 mm2 Size		240		

Rates quoted in this Bid are INCLUSIVE of taxes and duties. Under no circumstances shall escalation in the prices of this Tender Document be entertained. The details quoted herein stand valid for at least six months from the date of opening of the Price Bid.

Format 1- Format of SD cum Performance Bank Guarantee

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country]

Ref.: _____

Bank Guarantee No.: _____

Date: _____

FORMAT OF BANK GUARANTEE FOR SD CUM PERFORMANCE BANK GUARANTEE.

We, Bank of _____ hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Gujarat State Disaster Management Authority or any Officer authorized by it in this behalf any amount upto and not exceeding Rs _____ (in words) _____ to the said Gujarat State Disaster Management Authority on behalf of M/s. _____ (Contractor's Name) who have entered in to contract for the supply / works specified below.

LOI / A/T No _____ dtd. _____

This agreement shall be valid and binding on this Bank up to inclusive of _____ and shall not be terminable by notice or by change in the constitution of the Bank or the firm of Consultant or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given conceded or agree, with or without our knowledge or consent by or between parties to the said within written contract.

NOTWITHSTANDING anything contained herein before our liability under this guarantee is restricted to Rs. _____ (Rupees _____).

Our guarantee shall remain in force until _____ (date of validity of Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before ----- (date should be 1 month after the above validity period of BG), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under.

Place:

Date:

(Please mention here complete Postal
Address of Bank with Branch Code,
Telephone and Fax Nos)

Signature of the
Bank's authorized Signatory
with official seal

INSTRUCTIONS FOR FURNISHING PERFORMANCE BANK GUARANTEE

1. The Bank Guarantee by Bidders will be given on non-judicial stamp paper as per stamp duty applicable at the place where the tender has emanated. The non-judicial stamp paper should be in name of the issuing bank.
2. The Bank Guarantee by Bidder will be given from Govt. authorised only.
3. This bank guarantee/ all further communication relating to the bank guarantee should be forwarded to _____, Gujarat only.
4. The full address along with the Telex/Fax No. and email address of the issuing bank to be mentioned

Format 2- Format of O&M Bank Guarantee

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country]

Ref.: _____

Bank Guarantee No.: _____

Date: _

To,
The PS & CEO
Gujarat State Disaster Management Authority
Block 11,12, 5th Floor
Udyog Bhavan, Sector – 11, Gandhinagar.

Dear Sir,

WHEREAS *[Insert name of the Contractor]* with address *[Insert address of the Contractor]* having its registered office at *[Insert address of the Contractor]* (hereinafter, the “Bidder”) wishes to participate in Tender document No. _____ issued by Gujarat State Disaster Management Authority (“GSDMA”) (hereinafter, the “Beneficiary”) for Operation and Management of Performance of Landscape Densification Project.

And WHEREAS a Bank Guarantee for Rupees *[.....]* valid till *[Insert date for 10 years from the date of commissioning]* is required to be submitted by the Contractor as per the terms and conditions of the Tender.

We, *[Insert name of the Bank and address of the Branch giving the Bank Guarantee]* having our registered office at *[Insert address of the registered office of the Bank]* hereby give this Bank Guarantee No. *[Insert Bank Guarantee number]* dated *[Insert the date of the Bank Guarantee]*, and hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Beneficiary any officer authorized by it in this behalf any amount not exceeding Rupees *[.....]* to the said Beneficiary on behalf of the Bidder.

We *[Insert name of the Bank]* also agree that withdrawal of the Bid or part thereof by the Bidder within its validity or non-submission of further O&M Performance Bank Guarantee by the Bidder within the stipulated time of the Letter of Intent to the Bidder or any violation to the relevant terms stipulated in the Tender would constitute a default on the part of the Bidder and that this Bank Guarantee is liable to be invoked and encashed within its validity by the Beneficiary in case of any occurrence of a default on the part of the Bidder and that the encashed amount is liable to be forfeited by the Beneficiary.

This agreement shall be valid and binding on this Bank up to and inclusive of *[Insert the date of validity of the Bank]* and shall not be terminable by notice or by Guarantor change in the constitution of the Bank or the firm of the Bidder Or by any reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, conceded with or without our knowledge or consent by or between the Bidder and the Beneficiary.

NOTWITHSTANDING anything contained hereinbefore, our liability under this guarantee is restricted to Rupees*(Insert the Amount)*. Our Guarantee shall remain in force till *[Insert date]*. Unless demands or claims under this Bank Guarantee are made to us in writing on or before *[Insert date]*, all rights of the Beneficiary

under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under.

*[Insert the address of the Bank with complete
postal branch code, telephone and fax
numbers, and official round seal of the Bank]*

*[Insert signature of the Bank's
Authorized Signatory]*

Attested:

..... [Signature] (Notary Public)

Place:

Date:

.....

INSTRUCTIONS FOR FURNISHING BANK GUARANTEE

1. The Bank Guarantee by Bidders will be given on non-judicial stamp paper as per stamp duty applicable at the place where the tender has emanated. The non-judicial stamp paper should be in name of the issuing bank.
2. The Bank Guarantee by Bidder will be given from Govt. authorized bank only given.
3. This bank guarantee/ all further communication relating to the bank guarantee should be forwarded to_____,Gujarat
4. The full address along with the Telex/Fax No. and email address of the issuing bank to be mentioned.

Bank Guarantee from the following Banks will be acceptable.

Sr. No	List of Banks	
(1)	All Nationalized Banks including the Public Sector Bank-IDBI Ltd.	
(2)	Private Sector Banks authorized by RBI to undertake State Government Business. (at present – AXIS Bank , ICICI Bank and HDFC Bank)	
(3)	Commercial Banks	
	1	Kotak Mahindra Bank
	2	Yes Bank
	3	Indusland Bank
	4	Ratnakar Bank
(4)	Regional Rural Banks of Gujarat	
	1	Dena Gujarat Gramin Bank
(5)	Co-operative Banks of Gujarat	
	1	The Kalupur Commercial Co-operative Bank Ltd.
	2	Rajkot Nagarik Shakari Bank Ltd.
	3	The Ahmedabad Mercantile Co-operative Bank Ltd.
	4	The Mehsana Urban Co-operative Bank Ltd.
	5	Nutan Nagrik Sahakari Bank Ltd.

Format 3- Format of summary of Audited Financial Statements

To
The PS & CEO
Gujarat State Disaster Management Authority
Block 11,12, 5th Floor
Udyog Bhavan, Sector – 11, Gandhinagar.

Sub: Summary of Financial Statement

Ref: *Request for Proposal for Bid for Tender for “Landscape Densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat”.*

Dear Sir,

This is to certify that *[Insert name of Bidder]* (the “Bidder”) having its Registered Office at *[Insert Registered Address of the Bidder]* with PAN No. *[Insert PAN No. of the Bidder]* is in the business of *[Insert briefly the nature of the business]*, has recorded the following turnovers and net worth:

Financial Year	Turnover (in INR)	Net Worth (in INR)	For Official Use Only
			Audited Statement Attached?
2017-18			Yes // No
2016-17			Yes / No
2015-16			Yes / No
2014-15			Yes / No

All figures indicated herein are arrived from the Audit Reports of the Bidder duly submitted to the Income Tax Department.

All figures indicated herein are calculated as per the guidelines mentioned in the Tender.

Sincerely yours,

.....

[Official seal of the Chartered Accountant]

[Insert Name of the Chartered
Accountant]

Date: [Insert Date]

[Insert address and contact
information of the Chartered
Accountant]

Place: [Insert Place]

[NOTES:

- A. If the Bidder is seeking financial qualification based on the financial standing of the Parent Company, then a similar certificate summarizing the financial statement of the Parent Company shall be attached by the Bidder as a part of the Bid.
- B. All audited statements to be attached by the Bidder as a part of the Bid.

Format 3- Format of of Power of Attorney as Authorized Signatory

(On a non-judicial stamp paper of appropriate value)

Know all men by these presents, we, (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorise Mr. / Ms_____(Name)____, son/daughter/wife of _____ and presently residing at _____, who is presently employed with us and holding the position of _____, as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for the Tender for Landscape Densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat" pursuant to the Tender Document no._____. dated _____ issued by



Gujarat State Disaster Management Authority ("GSDMA"), including but not limited to signing and submission of all applications, Bids and other documents and writings, participate in Bidders" and other conferences and providing information / responses to the Company, representing us in all matters before the Company, signing and execution of all contracts including the Contract Agreement and undertakings consequent to acceptance of our Bid, and generally dealing with the Company in all matters in connection with or relating to or arising out of our Bid for the said Project and/or upon award thereof to us and/or till the entering into of the Contract Agreement with GSDMA.

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

In witness whereof we, _____ The above named principal have executed this power of attorney on _____ this day of _____ 2018.

For,

(Signature, name, designation and address) Witnesses:

- 1.
- 2.

Accepted Notarised

(Signature, name, designation and address of the Attorney)

Notes:

1. *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.*
2. *Wherever required, the Bidders should submit for verification the extract of the charter documents and documents such as a board or shareholders resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power*

hereunder on behalf of the Bidder.

-
3. *For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention, 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Appostille certificate.*

Format 4- Format of Declaration on Bidder's Relation to Directors

To

The PS & CEO

Gujarat State Disaster Management Authority Block

11,12, 5th Floor

Udyog Bhavan, Sector – 11, Gandhinagar.

Sub: Declaration of relationship with Directors/any other employee/associates.

Dear Sir,

This has reference to our proposed Bid regarding **Tender for “Landscape Densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat”** and for the



purpose of Section 297/299 of the Companies Act 1956, we certify that to the best of my/our knowledge:

- i) I am not a relative of any Director of GSDMA or ;
- ii) We are not a firm in which a Directors of GSDMA or its relative is a partner;
- iii) I am not a partner in a firm in which a Directors of GSDMA or, or its relative is a partner;
- iv) We are not a private company in which a Director of GSDMA or is a member or director;
- v) We are not a company in which Directors of GSDMA hold more than 2% of the paid-up share capital of our company or vice-versa.

Authorised Signatory of the Contracting Party

Place:

Date:

Format 5- Format of Declaration of Compliance

The PS & CEO

Gujarat State Disaster Management Authority

Block 11,12, 5th Floor

Udyog Bhavan, Sector – 11, Gandhinagar.

Sub: Declaration of Compliance for the Tender for “Landscape Densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat”.

Dear Sir,

This is to certify that I, _____,
am the duly authorized signatory appointed on behalf of my organization to submit this Bid.
The authorization letter is attached herewith. I agree to all the terms and conditions set forth
in this Tender Document.

If awarded the job, the Scope of Work shall also conform to the terms and conditions, as well
as specifications indicated in the Tender Document and as finally indicated by the Evaluation
Committee.

I further certify that all the information provided in this document is accurate to the best of
my knowledge.

Signature: _____ Designation: _____

Name: _____ Organization: _____

Address: _____ Email: _____

_____ Phone: _____

Format 5- Format of Details of Qualified Technical Staff

Sr. No.	Name & Post Proposed for Project	Relevant Qualification	Additional Certifications	Total Years of Relevant Experience	Remarks
1.					
2.					
3.					
4.					
5.					
6.					

Format 6- Format of Details of Similar Technical Experience

INSTRUCTIONS:

- A. The Bidder shall indicate similar experience of Landscape projects herein.
- B. The Bidder shall duly attach the Letter of Award (LOA) from the Client, Commissioning Certificate, and Certificate of Satisfactory Completion of Work from the Client.

C. Projects without sufficient documentary evidence of execution, commissioning and completion as per the discretion of GSDMA shall not be considered towards technical evaluation of the Bidder.

D. The Bidder may indicate more than five (5) projects.

Sr.	Name of Client (with name and contact information of Contact Person)	Landscape Projects (in area/Type)	For Official Use Only		
			LOA attached?	Commissioning Certificate attached?	Certificate of Satisfactory Completion attached?
1.			Yes/ No	Yes/ No	Yes/ No
2.			Yes/ No	Yes/ No	Yes/ No
3.			Yes/ No	Yes/ No	Yes/ No
4.			Yes/ No	Yes/ No	Yes/ No
5.			Yes/ No	Yes/ No	Yes/ No

Format 7- Format of Details of Bidder

1. (a) Name:
- (b) Country of incorporation:
- (c) Address of the corporate headquarters and its branch office(s), if any, in India:
- (d) Date of incorporation and/ or commencement of business:
2. Brief description of company including details of its main lines of business and proposed role and responsibilities in this Project:
3. Details of individual(s) who will serve as the point of contact/ communication for company:

-
- (a) Name:
 - (b) Designation:
 - (c) Company:
 - (d) Address:
 - (e) Telephone Number:
 - (f) E-Mail Address:
 - (g) Fax Number:
4. Particulars of the Authorised Signatory of the Bidder:
- (a) Name:
 - (b) Designation:
 - (c) Address:
 - (d) Phone Number:
 - (e) Fax Number:

Format 7- Format of Covering Letter

To,

The

PS & CEO

Gujarat State Disaster Management Authority

Block 11,12, 5th Floor

Udyog Bhavan, Sector – 11, Gandhinagar.

Sub: Submission of the Tender Document No. _____, dated _____.

Dear Sir,

We, the undersigned, have considered and complied with the "Instructions to Bidders" and have accepted the terms stipulated in the Tender Document No. GSDMA SM-III/Smritivan/Landscape

The Scope of Work to be offered by us shall include but not be limited to "Landscape densification at Smritivan Earthquake Memorial, Bhuj, District: Bhuj in the State of Gujarat". In full cognizance and compliance with these aforesaid conditions and the regulations of local government authorities, we the undersigned do hereby offer our Bid and agree for the following:

- i. The work covered under the Bid shall be completed to the entire satisfaction of yourselves or your representative in conformity with the Tender Document at the prices accompanying this Bid.
- ii. The Project shall be handed over installed, interconnected, tested, commissioned and modified and we shall achieve commissioning in not later than Thirty (30) days from the date of issue of LoA.
- iii. I/We further certify that in regard to matters relating to security and integrity of the country, we or any of our Associates have not been charge-sheeted by any agency of the Government or convicted by a Court of Law.
- iv. I/ We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by GSDMA in connection with the selection of Applicants, selection of the Bidder, or in connection with the selection/ bidding process itself, in respect of the above mentioned Project and the terms and implementation thereof.
- v. We agree to keep the bidding valid for acceptance for a period of 180 days from the opening the Price Bid and the Bid shall not be withdrawn on or after the opening of bidding till the expiry of this period or any extension thereof.
- vi. We also acknowledge and accept that you shall not pay for any discontinuance or low performance rate resulting from malfunction of / or inadequacy of our equipment, instruments or personnel.
- vii. We further represent that we have familiarized ourselves with all the terms and provisions of the various parts of the bidding documents and that in making our Bid, we do not rely upon any representation made by any agent or employee of yourselves in respect of the terms of the bidding documents or the nature of the performance of the works.

Yours Sincerely,

Signature: _____

In the capacity of: _____

Duly authorized to sign Tenders for and on behalf of (Name & Address)

Format 7- Format of EMD Bank Gurantee

EMD BANK GUARANTEE FORMAT FOR TENDER /RFP No._____

(BANK GUARANTEE ON NON-JUDICIAL STAMP PAPER OF Rs.100)

WHEREAS M/s. _____

(Name and Address of the Firm) having their registered Office at

- (Address of the Firm's

registered Office) (hereinafter called the Tenderer) wish to participate in the Tender No. _____ for _____ of

(supply / Erection / Supply & Erection / Work) of _____

(Name of the material / equipment / work) for _____ Gujarat State

Disaster Management Authority

And

WHEREAS

a Bank Guarantee for (herein after called the "Beneficiary") Rs. _ (Amount of

EMD) valid till _____ (mention here date of validity of this Guarantee which will be

6 (Six) months beyond initial validity of Tender's offer), is required to **be submitted by the Tenderer along with the bid.**

We, _____

(Name of the Bank and address of the Branch giving the Bank Guarantee) having our registered Office at _ (Address of Bank's registered Office) hereby

give this Bank Guarantee No. _____
dated _____ and hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Gujarat State Disaster Management Authority or any Officer authorized by it in this behalf any amount not exceeding Rs. _____ (amount of EMD) (Rupees _____) (in words) to the said Gujarat State Disaster Management Authority on behalf of the Tenderer.

We, (Name of the Bank) also agree that withdrawal of the tender or part thereof by the Tenderer within its validity or non- submission of Security Deposit by the Tenderer within one month from the date of tender or a part thereof has been accepted by the Gujarat State Disaster Management Authority would constitute a default on the part of the Tenderer and that this Bank Guarantee is liable to be invoked and encashed within its validity by the Beneficiary in case of any occurrence of a default on the part of the Tenderer and that the encashed amount is liable to be forfeited by the Beneficiary.

This agreement shall be valid and binding on this Bank upto and inclusive of _____ (mention here the date of validity of Bank Guarantee) and shall not be terminated by notice or by Guarantor change in the constitution of the Bank or the Firm of Tenderer or by any reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, conceded with or without our knowledge or consent by or between the Tenderer and the Gujarat State Disaster Management Authority.

NOT WITHSTANDING anything contained hereinbefore our liability under this Guarantee is restricted to Rs. _____ (amount of EMD) (Rupees

_____ (in words).

Our Guarantee shall remain in force till _____ (date of validity of the Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before

_____ (date should be 1 month after the above validity period of BG), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under.

Place: Date:

Please mention here complete Postal
Address of the Bank with Branch Code,
authorized Telephone and Fax Nos.

Signature of the
Bank's
Signatory with Official Seal.

INSTRUCTIONS FOR FURNISHING BANK GUARANTEE

2. The Bank Guarantee by Bidders will be given on non-judicial stamp paper as per stamp duty applicable at the place where the tender has emanated. The non-judicial stamp paper should be in name of the issuing bank.
3. The Bank Guarantee by Bidder will be given from Nationalized/Scheduled bank as per List mentioned in RFP only.
4. This bank guarantee/ all further communication relating to the bank guarantee should be forwarded to _____, Gujarat only.
5. The full address along with the Telex/Fax no. and email address of the issuing bank to be mentioned.