



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
**HORTICULTURE SECTION**  
**NOTICE INVITING TENDER**

Telephone No. 022-2576-4995,022-2159-6922 email id [drestate@iitb.ac.in](mailto:drestate@iitb.ac.in)

IIT Bombay invites signed Technical Bid & Financial Bid for the following work from the contractors having similar experience in Central Government Departments / State Government Departments / Central or State Autonomous Bodies / Central or State Public Sector Undertakings / in reputed Private Companies. The detail of work is given below:

Sr. No	Name of Work	Estimated Cost (In Rs.)	EMD (Rs.)	Mode of Tender	Duration of contract
1	Supplementary support systems and root zone enrichment to the trees in the IIT Bombay Campus. EO/A/HORT/WKS-233/25-26	Rs 1,16,74,651/- <b>Incl 18% GST</b>	Rs.2,33,000/-	<b>Percentage rate offline mode</b>	<b>06 months</b>

Intending bidders need to register themselves on the IIT Bombay portal i.e. <https://portal.iitb.ac.in/vrp/index.jsp> to get User ID and Password. Please visit [https://portal.iitb.ac.in/vrp/vrp\\_srm\\_docs.jsp](https://portal.iitb.ac.in/vrp/vrp_srm_docs.jsp) for configuration process and user manual. For queries regarding vendor registration, and configuration process please contact on 022 - 2159 3001 (MDM Help-desk).

All tender documents, forms, etc are available online on <https://www.iitb.ac.in/resources/vendors-tenders> and Central Public Procurement Portal (CPPP) e-tender publishing portal of the Government of India.

Date of submission of technical and financial bids, in 2 separate envelopes is on 10.03.2026 from 09:15 a.m to 11:15 a.m. in the tender box at 1st floor, Conference room, Estate Office. **The date of opening the technical Bid will be 10.03.2026 at 11:30 a.m and the date of opening of financial bid is on 17.03.2026 (Tentative)**

Interested contractors/agencies are requested to submit Technical bid and Financial bid in the Tender Box of the Estate Office. All contractors/agencies should submit technical bid with the following documents, failing to which their tender will be summarily rejected from the tendering process:

1) **i.** Experience of having successfully completed works during the last 7 years ending last day of the month previous to the one in which applications are invited :

Three similar completed works costing not less than the amount equal to **40%** of estimated cost put to tender,

OR

Two similar completed works, costing not less than the amount equal to **50%** of the estimated cost put to tender

Or

One similar completed work of aggregate cost not less than the amount equal to **80%** of the estimated cost.

**“Similar work”** means Tree health risk assessment, tree care and management of trees, horticultural services, evaluating potential hazards posed by trees along with the recommendations and mitigation measures.

2) Submit a copy of the information in respect of manpower/mandays for above said work must be given in undertaking with official signature and seal/stamp, otherwise tender will be rejected.

3) P. F. registration certificate and P. F. challans of last 12months.

- 4) (i) ESIC registration certificate and copies of ESIC challans of last 12 months. OR (ii) Contractors' all risks insurance (CAR policy) / Mediclaim policy.
- 5) PAN card.
- 6) GST registration certificate.
- 7) Income Tax Return for last 03 years i.e. of **2022-23, 2023-24 and 2024-25**.
- 8) List of Equipment's, Machinery, Tools.
- 9) List of Technical Staff with copies of their Degree/diploma certificate.
- 10) Submit DD/FDR/BG of Rs. 2,33,000/- in the name of "The Registrar, IIT Bombay" in the Technical Bid Envelope.
- 11) Power of Attorney, if any.
- 12) Proof of Constitution: An affidavit in case of Sole Proprietorship, Partnership Deed in case of Partnership Firm, Article of Association in case of Private / Public Limited Companies.
- 13) **Litigation history** of the agency is required to be submitted along with the application. A tender would not be awarded if any inquiry proceeding / criminal case is found pending against the agency.
- 14) Detail statement for work completed, work in hand including balance commitment of work should be enclosed for last three year commencing from 1st April and ended with 31st March and contractor should submit his details as per **Annexure'A'** format with support of xerox copies of work order and work completion certificates.

#### **Terms & Conditions :**

The selected bidder should submit a **Performance Guarantee for 5%** of the quoted amount. The time allowed for submission of the Performance Guarantee from the date of issue of the letter of acceptance is 14 days.

The work will be executed with lowest bidder as per the terms and conditions of work order and tender documents signed by the lowest bidder.

The validity of the bids will be valid for 6 months from the date of opening of tender.

No work will be subletted to third party. If found payment of final bill will not be processed and the contractor's name will removed from the enlistment without giving him further notice.

The rates is prepared from CPWD DSR 2023, CPWD E&M-2025 and market rates.

Agencies are strictly prohibited from engaging in any correspondence related to tender documents with anyone other than the Tender Section. Any violation will result in disqualification from all future tenders.

IIT Bombay reserve its rights to reject any or all tenders without assigning any reason and without any reference. IIT Bombay reserves the right to request a detailed justification of the quoted rates from the lowest bidder, if deemed necessary by the In-Charge, Horticulture. Should the justification provided by the bidder be considered unsatisfactory or unsubstantiated, the In-Charge, Horticulture shall have full authority to reject the bid, irrespective of it being the lowest.

**Sr. Technical Supdt. (In-charge, Horticulture)**

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12/02/2022

# INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

## HORTICULTURE SECTION

### General terms & conditions for Supplementary Support Systems & Root Zone Enrichment

**Scope and intent of the work:** The intent of this contract is the execution of tree risk mitigation and preservation program through installation of supplemental support systems (propping, guying and bracing), root zone enrichment treatment for scheduled trees, systematic documentation, and periodic maintenance for the defined contract period. The BOQ shall be read as a performance specification in which the objective is reduction of mechanical failure probability while maintaining biological compatibility and long-term vitality of the supported trees. All works necessary to achieve a stable, safe and functional outcome, including incidental and ancillary activities, shall be deemed included whether specifically mentioned or not, provided such activities are consistent with the BOQ.

#### **Deliverables:**

##### **A. Executed Supplemental Support Systems (SSS)**

Tree-wise installation of approved propping, guying, and bracing systems in strict accordance with the Tree Schedule, including all interface protections, foundations, anchorage, corrosion protection and safety measures.

##### **B. Executed Root Zone Enrichment (RZE) treatment**

Completion of root zone enrichment for scheduled trees using the specified bio capsule methodology, including borehole installation, activation watering and surface reinstatement.

##### **C. Technical verification & certification**

Tree-wise technical verification and certification by the designated Engineer / Project Technician confirming structural stability, correct configuration, biological compatibility and compliance with specifications.

##### **D. Geo-referenced documentation & records**

Submission of Geo-referenced tree-wise records including GPS location, THRA ID, pre and post- installation photographs, system type and key component details.

##### **E. Quarterly Maintenance & Adjustment (24 months)**

Periodic inspection- for every 3 months, tension adjustment, alignment correction, and component replacement (full/partial), if required to ensure continued performance and biological safety of installed systems.

##### **F. Final completion & handover report**

Consolidated completion report covering executed quantities, documentation summary, maintenance records and formal handover certification.

1. Site verification and pre-execution confirmation: The contractor shall verify site conditions prior to mobilization, including access constraints, ground bearing conditions, subsurface obstructions, proximity to buildings and utilities, pedestrian and vehicular movement and any operational restrictions of the premises. The contractor shall not raise claims for extra cost or time due to conditions that could reasonably be observed during a site visit or derived from the tree Schedule and the stated ranges of support lengths.
2. Tree schedule compliance and quantity control: All installations shall be executed strictly as per the approved tree schedule and its tree-wise prescriptions, including the stated number of trees, number of systems and length ranges. Where the tree schedule provides a range (e.g., prop length 2.5–12.0 m), the system shall be configured tree-wise to the required geometry and load path, and payment shall be governed by the BOQ unit measurement and certification protocols.
3. Biological protection as a contractual requirement: The contractor shall treat avoidance of biological injury as a primary contractual requirement. All interfaces between support components and the tree shall be arranged to avoid bark abrasion, cambial compression, vascular disruption, and moisture-trapping conditions that can promote decay. The contractor shall ensure that all contact zones are cushioned and that attachment positions allow for incremental radial growth and seasonal movement without progressive constriction.
4. Engineering philosophy of supplemental support systems: Propping, guying and bracing shall be executed as mechanical interventions that modify load paths and reduce bending moments, torsional stresses, and dynamic oscillations within the tree structure. The contractor shall ensure that each support system contributes to improved stability without introducing secondary stress concentrations, point loading, or unintended restraint that could increase failure risk under wind excitation or asymmetric canopy loading.
5. Foundation preparation and soil disturbance control: Earthwork shall be executed with controlled excavation and back filling, limiting disturbance to the minimum necessary footprint. Excavation shall be carried out in a manner that avoids severance of major structural roots to the extent practicable; where roots are encountered, the contractor shall adjust foundation placement or dimensions rather than cutting roots, except where unavoidable and directed by the Horticulture in-Charge/Horticulturist. Back filling shall be performed in compacted layers and finished with surface reinstatement to maintain site safety and to avoid creating localized depressions that alter drainage and oxygen diffusion into the root zone.
6. Metal workmanship requirements: Metal work fabrication shall be performed with appropriate cutting, alignment, welding quality, and dimensional accuracy so that installed assemblies remain stable under sustained static load and under cyclic dynamic loading. Welded joints shall be continuous where required, free from cracks, undercutting, slag inclusions, and incomplete fusion. Sharp edges and burrs shall be removed to prevent damage to protective sleeves and pads and to reduce injury hazards to personnel.
7. Protective coatings and corrosion management: Priming and protective coating systems shall be applied on prepared metal surfaces to reduce corrosion initiation and propagation. Coatings shall be continuous, with adequate film coverage at joints, welds, and edges that are commonly susceptible to early rusting. All shall be applied as per manufacturer guidelines over compatible primer, ensuring the coating system remains intact under outdoor exposure, rainfall and periodic cleaning.

8. Propping configuration and load transfer requirements: Propping systems shall be designed and installed to function as supplemental vertical load-transfer mechanisms, facilitating the controlled transmission of gravitational and dynamic loads from compromised or overextended scaffold limbs directly to the ground bearing interface. The orientation of each prop shall prioritize axial compression loading, thereby minimizing bending moments, torsional stress, and deflection within the supported limb. The contractor shall ensure that the prop head is positioned beneath structurally appropriate zones of the limb, avoiding localized stress concentration, eccentric loading or point-contact pressure that could induce bark deformation or cambial injury. The contact interface between the prop head and the limb shall incorporate a protective abrasion-resistant sleeve and elastomeric cushioning pad, functioning to dissipate micro-vibrations, absorb cyclic movement induced by wind loading, and buffer differential motion between the rigid prop and the living tree tissue. This interface shall be maintained in a manner that accommodates gradual growth, seasonal limb movement, and physiological expansion without inducing shear abrasion, compression bruising, or disruption of vascular continuity.
9. Guying configuration and stabilization mechanics: Guying systems shall be installed as tension-based stabilizing assemblies, providing counteracting forces aligned with the predominant direction of structural lean, asymmetric canopy mass, or prevailing wind exposure. The geometric layout of guy lines shall be determined to enhance overall stability by reducing excessive sway amplitude and oscillatory displacement, while preserving the tree's inherent dynamic response characteristics. Tensioning of guy lines shall be carefully calibrated to achieve functional stabilization without over-restraining the structure, as excessive tension can elevate compressive stress at attachment interfaces, impair adaptive movement, and potentially alter load distribution within the trunk and root plate. Ground anchorage components shall be embedded and oriented to resist static pull-out forces as well as cyclic loading associated with wind events, canopy movement, and soil moisture fluctuation. Back filling and surface reinstatement around anchors shall be executed to restore soil continuity, compaction, and drainage characteristics, ensuring long-term anchor stability across seasonal wetting-drying cycles and minimizing the risk of progressive loosening or differential settlement.
10. Bracing configuration and intra-crown dynamics: Bracing systems shall be installed as intra-crown load-sharing restraints, intended to limit excessive separation, rotation, or differential movement between weakly attached or co-dominant limbs, rather than acting as rigid structural ties. The positioning of bracing lines shall follow appropriate geometric relationships between connected limbs, ensuring that the system functions to moderate peak dynamic displacement during wind excitation while allowing normal physiological sway and growth responses. Bracing assemblies shall be configured to distribute forces across multiple structural elements, thereby reducing stress concentration at any single attachment point. Turnbuckles shall be employed to achieve and fine-tune functional tension levels, recognizing that optimal performance requires a balance between restraint and flexibility. The contractor shall account for the fact that tree architecture evolves over time; therefore, bracing systems shall be installed with the expectation of periodic re-calibration to accommodate growth-induced changes in limb orientation, diameter expansion, and canopy mass distribution.

11. Interface protection and biological compatibility: Ethylene Propylene Diene Monomer (EPDM) cushioning pads and synthetic/PET abrasion sleeves shall be installed such that the interface remains stable, does not trap moisture continuously against bark and does not allow direct steel-to-bark contact at any time. Closure methods shall be tight enough to prevent slippage during wind movement but not so tight as to compress tissues. The contractor shall ensure that interface components remain in place after tensioning and that they can be adjusted during maintenance without causing bark tearing.
12. Fasteners, clamps, and mechanical security: Guy clamps, bolts, nuts, washer plates, and associated fasteners shall be installed to achieve mechanical security against loosening due to vibration, thermal cycling, and repeated micro-movements. Tightening shall be performed using appropriate tools so that clamping force is adequate to prevent slip without causing crushing of wire strands or deformation of components. Where a component shows signs of fatigue, distortion, corrosion or thread damage, it shall be replaced with a matching specification component.
13. Tensioning and adjustment control: Turnbuckles used for guying and bracing shall be installed with appropriate engagement lengths and locking provisions so that threads remain safely engaged after adjustment. Tensioning shall be performed incrementally and symmetrically where applicable, allowing the system to seat and distribute forces without shock loading. After initial tensioning, the contractor shall recheck tensions and fasteners after a settling interval or at the time of certification as directed, to account for seating, bedding-in of interfaces, and minor alignment changes.
14. Access methods and canopy work discipline: All canopy-level installations and adjustments shall be performed using controlled access methods appropriate to the site, tree size, and risk environment. The contractor shall ensure that equipment positioning does not damage root zones, curbs, pavements, irrigation lines, or landscaped areas. The contractor shall maintain controlled work zones to prevent falling-object hazards and shall coordinate with site authorities for movement control in pedestrian and vehicular corridors.
15. Competency of personnel and technical responsibility: The contractor shall deploy personnel experienced in relevant works and biologically sensitive tree interface management. The contractor shall designate a competent Engineer as a Project Technician responsible for technical planning, verification of installation geometry, confirmation of interface protections, and validation that each system meets the intended mechanical stabilization outcome while remaining biologically compatible.
16. Technical verification and certification protocol: Each installed support system shall be subjected to technical verification by the Project Technician prior to acceptance. Verification shall include confirmation of alignment, anchorage stability, integrity of interface protection, adequacy of tensioning, absence of sharp contact points, and compliance with the tree schedule prescriptions.
17. Geo-referenced documentation and baseline data set: The contractor shall create a Geo-referenced baseline data set for each treated tree, including GPS coordinates, assigned THRA ID, pre-installation photographs documenting existing defects and geometry, installation photographs showing system components and interface details, and post-installation photographs capturing the final configuration. Photographs shall be of sufficient clarity to identify components, attachment points and the surrounding context for long-term interpretation.

18. As-built records and system metadata: As-built records shall capture the system type, approximate support lengths, component specifications, configuration notes and the date of installation. Records shall include metadata such as the number and type of clamps used, presence of turnbuckles, interface protection placement and any site-specific constraints. These records shall be compiled in a standardized format suitable for auditing, institutional archiving and longitudinal monitoring.
19. Quarterly maintenance and adaptive adjustment: All installed supplemental support systems shall be subject to systematic inspection, evaluation, and adjustment at quarterly intervals over a continuous period of 24 months, acknowledging that trees are dynamic biological systems exhibiting seasonal growth, adaptive movement and evolving load paths. During each maintenance cycle, guying and bracing components shall be assessed for tension adequacy, alignment, material integrity and interface condition, with adjustments carried out to maintain functional stabilization without imposing excessive mechanical stress on tree tissues. Propping systems shall be inspected for vertical alignment, bearing stability and continuity of contact at the limb interface; any evidence of foundation settlement, soil erosion, base plate displacement or loss of bearing contact shall be rectified promptly to restore effective load transfer. All fasteners, connectors, clamps and adjustment devices shall be examined for corrosion, wear or fatigue and replaced where necessary to maintain structural reliability and safety. Maintenance activities shall be adaptive in nature, responding to observed changes in tree form, growth patterns and environmental exposure rather than relying solely on fixed settings.
20. Component replacement and equivalence: During the maintenance period, any component exhibiting wear, corrosion, fatigue, deformation, thread damage or reduced function shall be replaced promptly with equivalent specification components. Replacement shall be recorded in the monitoring logs, including the reason for replacement and the details of the new component. The contractor shall ensure compatibility of replacement components with the existing system to maintain uniform performance and safety.
21. Root zone enrichment treatment execution integrity: Root zone enrichment through bio-capsule application shall be executed with strict adherence to root biology, soil structure and rhizosphere functioning, ensuring that the treatment enhances below-ground conditions without causing mechanical injury or physiological stress. Boreholes shall be positioned to target zones dominated by fine, absorptive roots while deliberately avoiding major structural roots, thereby preserving anchorage integrity and minimizing wound response. Borehole depth and placement shall be consistent with the specified methodology to ensure that bio-capsule contents are released within biologically active soil horizons, where microbial activity, root uptake, and nutrient exchange are most effective. Following installation, controlled watering shall be applied to initiate activation of the biocapsules and promote intimate contact between released compounds and the surrounding soil matrix, while avoiding conditions that could lead to water-logging, reduced oxygen diffusion or anaerobic stress within the root zone. The overall execution shall maintain soil porosity, gas exchange, and moisture balance, thereby supporting sustained root function, microbial colonization and long-term improvement of soil-root interactions.

22. Utility clearance and subsurface risk control: Prior to any excavation, augering, or anchor installation, the contractor shall obtain confirmation of underground utility clearance from the site authority and shall implement cautionary excavation methods where utilities may exist. Any damage to utilities, pavements, drainage, irrigation or electrical systems arising from execution shall be repaired by the contractor at their cost and within the time frame directed by the Horticulture in-Charge/Horticulturist.
23. Environmental control and reinstatement: The contractor shall maintain a clean and hazard free site environment. Excavated soil, steel offcuts, packaging and debris shall be removed from work zones and disposed of as directed. After each activity, disturbed surfaces shall be reinstated, trip hazards eliminated and access routes restored. The contractor shall ensure that no sharp projections, exposed wire ends or unsecured components remain that could injure site users.
24. Defects responsibility and performance assurance: The contractor shall remain responsible for correcting defects arising from workmanship, material non-conformance or inadequate installation. Any failure such as loosening, slippage, loss of alignment, premature corrosion due to inadequate coating or interface-related injury risk attributable to the contractor shall be rectified at no extra cost. The contractor shall also be responsible for ensuring that maintenance obligations are met in full and within the required schedule.
25. Dispute resolution and final technical authority: Any technical dispute related to interpretation of system configuration, installation acceptability, biological compatibility, documentation adequacy or maintenance performance shall be resolved by the Horticulture in-Charge/Horticulturist as the final authority. The contractor shall continue execution pending resolution unless instructed otherwise. All disputes shall be subject to the jurisdiction applicable to the project location and the applicable contractual provisions of the tender.
26. Interpretation and precedence: In case of discrepancy among documents, the order of precedence shall be the Letter of Acceptance/Work Order, the BOQ and technical descriptions, the special conditions (if any), and then these General Terms & Conditions. Where an item description contains both engineering and biological performance requirements, the contractor shall follow the more stringent requirement that best ensures structural integrity, durability and avoidance of injury to living tissues.
27. Safety discipline and controlled work zones: Work zones shall be clearly demarcated using barricades, warning signage, and visibility markers to protect pedestrians, vehicles, and adjacent infrastructure. Controlled access shall be enforced during lifting, tensioning and elevated operations.
28. Institutional safety compliance: All activities shall comply with applicable institutional safety norms, including campus-specific regulations, permit requirements and emergency protocols. Personnel shall adhere strictly to safety briefings and access controls prescribed by the institution.
29. Personnel competency and conduct: Only trained and competent personnel shall be deployed for installation and maintenance activities. Workforce conduct shall reflect institutional discipline, professionalism and respect for campus operations, with zero tolerance for unsafe or disruptive behavior.

30. Weather condition management: Installation and tensioning activities shall be scheduled with due consideration to weather conditions, avoiding high winds, heavy rainfall or extreme conditions that may compromise safety or accuracy of system calibration.
31. Coordination with institutional authorities: All activities shall be coordinated with designated institutional representatives to ensure minimal disruption to academic, residential and operational functions.

*Q*  
*Praveen*  
*12/12/2026*

**Sr. Technical Supdt. (In-charge, Horticulture)**

*A. Singh*  
*11/2*

**TO BE SUBMITTED SEPARATELY IN OTHER ENVELOPE ALONG WITH  
FINANCIAL BID**

**ANNEXURE 'A' (FORMAT)  
TECHNICAL BID**

File No. : EO/A/HORT/WKS-233/25-26

Name of Work : Supplementary support systems and root zone enrichment to the trees in IIT Bombay Campus.

Name of the Contractor -----

Sr. No.	Name of Client	Name of Works	2022-23 (In Lakhs)	2023-2024 (In Lakhs)	2024-2025 (In Lakhs)	2025-2026 (In Lakhs)	
						Completed	Balance
			-	-	-	-	-
			-	-	-	-	-
		Total Amount (In Lakhs)	-	-	-	-	-

Note : Contractor must submit his details as per Annexure 'A' with declaration stating that **he is possessing all the original copies of work orders and experience certificates, it will be produced as and when required to IIT Bombay.** However, if it is found false at later stage, the contractor will be debarred or blacklisted. Whereas, if information is not submitted as per Annexure 'A' format his bid capacity will not be calculated and his tender will be summarily rejected.

*12/10/2026*  
**Sr. Technical Supdt. (In-charge Horticulture)**

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Signature of Contractor  
Name & Address in full

## WORKS UNDERTAKING

EO/A/HORT/WKS-233/25-26

To,  
**Sr. Technical Supdt. (In-charge Horticulture)**  
Indian Institute of Technology,  
Powai, Mumbai – 400 076.

Sub : Supplementary support systems and root zone enrichment to the trees in the IIT  
Bombay Campus.

Dear Sir,

We are hereby quoting all the rates for the attached schedule of short tender of the above mentioned job.

We hereby accept & signed all the General Terms and Conditions and special Conditions of Contract.

The work will be completed within specified time limit of **06 Months** as mentioned in the notice inviting for short tenders.

The following information is required to be provided.

I / We agree to keep the tender open for One Hundred and Eighty (180) days from the due date of its opening / One Hundred and Eighty days from the date of opening of financial bid in case tenders are invited on 2/3 envelope system and not to make any modification in its terms and conditions.

	Male	Female
No. of Unskilled casual labour to be required per day.		
No. of Skilled casual labour to be required per day.		
Total Mandays required for completion of work.		

Thanking you,

Yours faithfully,

Signature of the Contractor  
With official Seal / Stamp of the firm

INDIAN INSTITUTE OF TECHNOLOGY BOBAY  
HORTICULTURE SECTION

EO/A/HORT/WKS-233/25-26

**Name of the work :** Supplementary support systems and root zone enrichment to the trees as per the recommendations of the arborist.

S.No	Schedule/Description of work	UOM	Quantity	Rate	Amount
<b>1</b>	Providing and installing supplemental tree PROPPING systems for the mechanical stabilization of structurally compromised, overextended, or horizontally oriented scaffold limbs, as identified in the approved Tree Schedule and tree-wise risk assessment for 35 trees with 35 Props; with an average Prop length of 7.0 m, ranging between 2.5 to 12.0 m, including preparation of foundation pockets, controlled excavation, backfilling, compaction and surface reinstatement. The work includes supply, fabrication and erection of mild steel tubular propping assemblies (100 mm diameter) with associated structural steel members, incorporating cutting, welding, hoisting, fixing in position and anchorage using mild steel holding-down bolts with nuts and washer plates, complete. All steel components shall receive a protective red oxide zinc chromate primer prior to installation. The propping interface shall incorporate EPDM nano-reinforced rubber cushioning pads (minimum 10 mm thickness) and synthetic/PET abrasion-resistant protective sleeves at all limb contact points to ensure load distribution, vibration dampening, and prevention of cambial compression, bark abrasion or vascular tissue damage. Propping systems shall be aligned to support axial and radial load paths of the supported limb, allowing for physiological movement and growth. The item further includes geo-referenced photographic documentation and tree-wise identification records for post-installation monitoring.				
1.01	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, for all lift, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	CUM	7.00	248.85	1,741.93
1.02	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift	CUM	7.00	187.38	1,311.63
1.03	Surface dressing of the ground including removing vegetation and in- equalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m. All kinds of soil	SGM	35.00	32.65	1,142.66
1.04	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished welded type tubes	KG	2,450.00	185.85	4,55,323.68
1.05	Applying priming coat with ready mixed red oxide zinc chromate primer of approved brand and manufacture steel galvanised iron / steel works.	SGM	105.00	64.43	6,765.61
1.06	Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above. M.S. Pipe 100mm dia.	Meter	245.00	1,403.10	3,43,759.50
1.07	Structural steel such as tees, angles channels and R.S. joists	Quintal	3.50	5,965.00	20,877.50
1.08	Supply including logistics and handling of EPDM (Ethylene Propylene Diene Monomer) nano-reinforced rubber pads with a minimum 10 mm thick, and installation as cushioning between sling and bark with tight closures - complete work.	Meter	35.00	1,945.00	68,075.00
1.09	Supply including logistics and handling of and installation of synthetic / PET (Polyethylene Terephthalate.) protective sleeve / abrasion-resistant textile at prop-branch interface (around branch within cradle) abrasive sleeve - complete work.	Meter	35.00	1,680.00	58,800.00
1.10	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.	KG	175.00	92.92	16,261.56
1.11	Providing tree-wise geo-referenced documentation for each treated tree, including GPS-based geo-tagging as per with the assigned THRA ID, and pre- and post-installation photographic records, including preparation and maintenance of as-built records and arboricultural monitoring logs, documenting installation details, all documentation shall be compiled in a standardized format suitable for long-term monitoring, audit and reporting, complete as directed by the Certified Arborist.	No's	35.00	1,450.00	50,750.00

1.12	Drilling Holes	Each	840.00	6.00	5,040.00
1.13	Welding Charges	mm	3,150.00	0.50	1,575.00
1.14	Engineer	DAY	10.00	1,500.00	15,000.00
1.15	Manpower Technication	DAY	20.00	973.00	19,460.00
1.16	Beldar / Coolie	DAY	40.00	805.00	32,200.00
1.17	Painter	DAY	7.00	893.00	6,251.00
1.18	Driver for (Road roller, concrete mixer, Trucks etc.)	DAY	10.00	897.00	8,970.00
1.19	Providing technical supervision for the planning, placement, and installation of tree propping supplemental support systems, including verification of tree selection, assessment of the positioning, orientation, and angles of propping systems in relation to tree architecture and load dynamics. Supervision shall ensure compliance with ISA Best Management Practices (ISA-BMP) and ANSI A300 (Part 3) standards, including correct load-path alignment, avoidance of cambial injury, and allowance for physiological movement and growth. The item includes on-site inspection during installation, verification of final configuration, and certification of works complete.	No's	35.00	2,385.00	83,475.00
1.20	Hire charges for 5 ton truck	DAY	10.00	4,000.00	40,000.00
1.21	Hire and running charges of crane 20 tonne capacity	DAY	7.00	7,850.00	54,950.00
<b>2</b>	Providing and installing tree GUYING supplemental support systems for mechanically stabilizing leaning, structurally imbalanced, or wind-susceptible trees as per the approved Tree Schedule and tree-wise risk assessment for 38 trees with 41 guying systems with an average guy length of 9 mt with a range from 2 to 19 mt per guy including excavation of anchor pockets, controlled earthwork by mechanical or manual means, backfilling with available excavated earth, compaction in layers, and surface dressing to reinstate site conditions. The work includes supply, fabrication and erection of steel guying anchor assemblies and associated structural steel components, utilizing MS pipes (100 mm diameter), built-up tubular steel sections, and structural steel members such as angles, channels, tees or RS joists, including cutting, welding, hoisting, bolting in position, bolting with washers, and anchorage using mild steel holding-down bolts with nuts and washer plates, complete. All steel components shall conform to IS:1239 (Class 'C') and IS:3589, as applicable, and shall be finished with a protective red oxide chromate primer. The guying interface at tree contact points shall incorporate EPDM nano-reinforced rubber pads of minimum 10 mm thickness and synthetic/PET abrasion-resistant protective sleeves to ensure controlled load transfer, prevention of cambial compression, and mitigation of bark abrasion under dynamic loading. Guying systems shall be aligned and tensioned to support the tree's natural load paths while allowing physiological movement and adaptive response, and shall be installed under technical supervision. The item further includes tree-wise geo-referenced documentation, comprising GPS-based geo-tagging linked to the assigned THRA ID, pre- and post-installation photographic records, preparation and maintenance of as-built drawings and monitoring logs, and certification of final installation, with all disturbed areas restored to a clean, stable and hazard-free condition.				
2.01	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, for all lift, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	CUM	41.00	248.85	10,202.72
2.02	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift	CUM	41.00	187.38	7,682.42
2.03	Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m. All kinds of soil	SQM	41.00	32.65	1,338.54
2.04	Supply and installation of Stay rod (1.8 M long, 19/20 mm dia.) with anchor plate 45 cm X 45 cm X 7.5 mm complete with thimble etc	Set	41.00	432.00	17,712.00
2.05	Supply and installation of Stay wire (7/4.00 mm dia.)	KG	779.00	37.00	28,823.00
2.06	Supply and installation of Turn buckle (20 mm X 60 cm)	Each	41.00	158.00	6,478.00
2.07	Supply and installation of Guy clamp	Each	656.00	54.00	35,424.00
2.08	Supplying and erection of stay set complete (galvanised) with 19/20 mm dia X 1.8 metres long stay rod, anchor plate of size 45 cm X 45 cm X 7.5 mm, thimble, stay clamps, turn buckle (20 mm X 60 cm), 7/ 4.00 mm dia G.I. stay wire and strain insulator etc in natural earth including excavation and refilling etc. as required.	Each	41.00	6,098.00	2,50,018.00
2.09	Applying priming coat with ready mixed red oxide zinc chromate primer of approved brand and manufacture steel galvanised iron / steel works.	SQM	12.30	67.40	829.02

2.10	Applying priming coat - Epoxy finish paint (two or more coats) on exposed parts of guying anchor steel over primer.	SQM	12.30	241.75	2,973.53
2.11	Supply including logistics and handling of EPDM nano-reinforced rubber pads with a minimum 10 mm thick, and installation as cushioning between sling and bark with tight closures - complete work.	Meter	61.50	1,945.00	1,19,617.50
2.12	Supply including logistics and handling of and installation of synthetic / PET protective sleeve / abrasion-resistant textile at guy-branch interface (around branch within cradle) abrasive sleeve - complete work.	Meter	61.50	1,680.00	1,03,320.00
2.13	Providing tree-wise geo-referenced documentation for each treated tree, including GPS-based geo-tagging as per with the assigned THRA ID, and pre- and post-installation photographic records, including preparation and maintenance of as-built records and arboricultural monitoring logs, documenting installation details, all documentation shall be compiled in a standardized format suitable for long-term monitoring, audit and reporting, complete as directed by the Certified Arborist.	No's	41.00	1,450.00	59,450.00
2.14	Engineer	DAY	10.00	1,500.00	15,000.00
2.15	Manpower Technication	DAY	20.00	973.00	19,460.00
2.16	Beldar / Coolie	DAY	40.00	805.00	32,200.00
2.17	Painter	DAY	3.00	893.00	2,679.00
2.18	Driver for (Road roller, concrete mixer, Trucks etc.)	DAY	10.00	897.00	8,970.00
2.19	Providing technical supervision for the planning, placement, and installation of tree propping supplemental support systems, including verification of tree selection, assessment of the positioning, orientation, and angles of propping systems in relation to tree architecture and load dynamics. Supervision shall ensure compliance with ISA Best Management Practices (ISA-BMP) and ANSI A300 (Part 3) standards, including correct load-path alignment, avoidance of cambial injury, and allowance for physiological movement and growth. The item includes on-site inspection during installation, verification of final configuration, and certification of works complete.	No's	35.00	2,385.00	83,475.00
2.20	Hire charges for 5 ton truck	DAY	10.00	4,000.00	40,000.00
2.21	Hire and running charges of crane 20 tonne capacity	DAY	7.00	7,850.00	54,950.00
<b>3</b>	Providing and installing intra-crown tree BRACING supplemental support systems for mechanically stabilizing weakly attached, codominant, or overextended scaffold limbs, as per the approved Tree Schedule and tree-wise risk assessment for 45 trees with 48 braces with an average brace length of 2.5 meter where as the range is between 1 to 6 mt per brace as per schedule - complete in all respects. The work includes supply, handling and installation of stay wire (7/4.00 mm diameter) configured as limb-to-limb bracing lines, secured with guy clamps and tensioned using forged steel turnbuckles (20 mm x 600 mm) to enable controlled adjustment and long-term load management. Limb attachment interfaces shall incorporate EPDM nano-reinforced rubber pads of minimum 10 mm thickness and synthetic/PET abrasion-resistant protective sleeves to distribute mechanical loads, dampen movement, and prevent cambial compression, bark abrasion, or vascular tissue injury. Bracing systems shall be positioned to follow natural load paths and sway dynamics of the tree architecture, allowing for physiological movement and adaptive growth response. Installation shall be executed under qualified arboricultural supervision in strict compliance with ISA Best Management Practices (ISA-BMP) and ANSI A300 (Part 3) standards, including verification of positioning, orientation, tension levels, and final configuration. The item further includes tree-wise geo-referenced documentation, comprising GPS-based geo-tagging linked to the assigned THRA ID, pre- and post-installation photographic records, preparation and maintenance of as-built records and monitoring logs, and certification of completed works.				
3.01	Supply including logistics and handling of EPDM nano-reinforced rubber pads with a minimum 10 mm thick, and installation as cushioning between sling and bark with tight closures - complete work.	Meter	96.00	1,945.00	1,86,720.00
3.02	Supply including logistics and handling of and installation of synthetic / PET protective sleeve / abrasion-resistant textile at brace-branch interface (around branch within cradle) abrasive sleeve - complete work.	Meter	96.00	1,680.00	1,61,280.00
3.03	Supply and installation of Stay wire ( 7/4.00 mm dia.)	KG	144.00	37.00	5,328.00
3.04	Supply and installation of Turn buckle ( 20 mm X 60 cm )	Each	48.00	158.00	7,584.00
3.05	Supply and installation of Guy clamp	Each	768.00	54.00	41,472.00

3.06	Providing tree-wise geo-referenced documentation for each treated tree, including GPS-based geo-tagging as par with the assigned THRA ID, and pre- and post-installation photographic records, including preparation and maintenance of as-built records and arboricultural monitoring logs, documenting installation details, all documentation shall be compiled in a standardized format suitable for long-term monitoring, audit and reporting, complete as directed by the Certified Arborist.	No's	48.00	1,450.00	69,600.00
3.07	Engineer	DAY	10.00	1,500.00	15,000.00
3.08	Manpower Technication	DAY	20.00	973.00	19,460.00
3.09	Beldar / Coolie	DAY	40.00	805.00	32,200.00
3.10	Driver for (Road roller, concrete mixer, Trucks etc.)	DAY	10.00	897.00	8,970.00
3.11	Providing technical supervision for the planning, placement, and installation of tree propping supplemental support systems, including verification of tree selection, assessment of the positioning, orientation, and angles of propping systems in relation to tree architecture and load dynamics. Supervision shall ensure compliance with ISA Best Management Practices (ISA-BMP) and ANSI A300 (Part 3) standards, including correct load-path alignment, avoidance of cambial injury, and allowance for physiological movement and growth. The item includes on-site inspection during installation, verification of final configuration, and certification of works complete.	No's	35.00	2,385.00	83,475.00
3.12	Hire charges for 5 ton truck	DAY	10.00	4,000.00	40,000.00
3.13	Hire and running charges of crane 20 tonne capacity	DAY	7.00	7,850.00	54,950.00
<b>4</b>	<b>Biocapsule-Assisted ROOT ZONE ENRICHMENT for Long-Term Rhizosphere Restoration, Nutrient Cycling, and Stress Resilience in Scheduled Trees</b>				
4.01	Root Zone Enrichment through Biocapsule-Assisted Root Enrichment for Scheduled Trees: Root Zone Enrichment through Biocapsule-Assisted Root Enrichment (BARE) shall be implemented twice within a single annual cycle for the trees identified in the approved schedule, maintaining a minimum inter-application interval of three (3) months and a maximum interval of six (6) months to ensure phased biological activation and sustained rhizosphere response. Each application shall involve the installation of three (3) BARE capsules per tree, positioned at radially distributed points within the dripline, or at locations specifically directed based on site or tree-specific considerations. Consequently, each tree shall receive a total of six (6) capsules per year, and the treatment shall be executed for 355 trees, amounting to 2,130 capsules (355 x 3 x 2) for the complete scope of work. All biological inputs included in Biocapsule-Assisted Root Enrichment capsule should be non-pathogenic, non-GMO strains, safe for humans, pets, livestock, and pollinators, and are free from heavy metals, synthetic chemical residues, and toxic contaminants, ensuring environmental and occupational safety during application and long-term soil persistence.	No's	2,130.00	595.00	12,67,350.00

4.02	<p>Providing Biocapsule-Assisted Root Enrichment (BARE): Each biocapsule shall have a minimum length of 21 cm and a diameter of 5 cm, with a minimum internal volume of 400 cm<sup>3</sup>, encased in a biodegradable capsule matrix engineered to disintegrate progressively over a period of three to four months, thereby enabling controlled, slow release of bioactive constituents directly into the biologically active fine-root zone. Installation shall be carried out by forming three vertical boreholes of 5 cm diameter per tree using manual or mechanical soil augers, with due care taken to avoid damage to primary or structural roots (<math>\geq 2</math> cm diameter). Capsules shall be placed vertically at an approximate base depth of 25 cm, followed by backfilling with screened native soil to ensure intimate soil-capsule contact and optimal microbial activation. Each capsule insertion location shall be photographically documented as part of the installation records, complete as directed. The Biocapsule-Assisted Root Enrichment (BARE) solid concentrate formulation shall comprise a biologically balanced consortium formulated on a volumetric basis (v/v) as follows: <i>Bacillus subtilis</i> at 0.60% v/v, functioning as an enzyme-producing and phosphorus-solubilizing rhizobacterium with pathogen suppression capability, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, and contamination-free; <i>Pseudomonas fluorescens</i> at 0.60% v/v, functioning in siderophore production, micronutrient mobilization and induced disease resistance, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Azospirillum brasilense</i> at 0.50% v/v, providing associative nitrogen fixation and enhancement of root proliferation, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Bacillus megaterium</i> at 0.50% v/v, supporting potassium and phosphorus mobilization and nutrient cycling in compacted soils, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Bacillus amyloliquefaciens</i> at 0.40% v/v, contributing phosphate solubilization, antifungal lipopeptide production and rhizosphere colonization, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Bacillus licheniformis</i> at 0.40% v/v, enhancing nitrogen availability and tolerance to compaction and salinity, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Bacillus polymyxa</i> (<i>Paenibacillus polymyxa</i>) at 0.40% v/v, supporting biological nitrogen fixation and phytohormone (IAA, GA) production, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Streptomyces</i> spp. at 0.50% v/v, facilitating decomposition of complex organic residues and suppression of soil-borne pathogens, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Frateriella aurantia</i> at 0.40% v/v, functioning as a potassium-solubilizing bacterium for nutrient-depleted soils, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free.</p> <p>The mycorrhizal and endophytic fungal fraction shall include <i>Rhizophagus intraradices</i> at 0.70% v/v, enhancing phosphorus uptake, water absorption and effective root surface expansion, with propagule density <math>\geq 100</math> spores/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Claroideoglossum etunicatum</i> at 0.60% v/v, improving zinc and micronutrient uptake and soil aggregation, with propagule density <math>\geq 100</math> spores/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Funneliformis mosseae</i> at 0.60% v/v, strengthening drought tolerance and absorptive root zone expansion, with propagule density <math>\geq 100</math> spores/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Gigaspora margarita</i> at 0.50% v/v, enhancing phosphorus uptake and moisture stress resistance, with propagule density <math>\geq 100</math> spores/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Glomus fasciculatum</i> at 0.50% v/v, improving soil aggregation and root anchorage, with propagule density <math>\geq 100</math> spores/g, moisture <math>\leq 12\%</math>, contamination-free; <i>Glomus macrocarpum</i> at 0.50% v/v, supporting micronutrient uptake and root longevity, with propagule density <math>\geq 100</math> spores/g, moisture <math>\leq 12\%</math>, contamination-free; and <i>Piriformospora indica</i> at 0.40% v/v, functioning as an endophytic fungus enhancing stress tolerance and root biomass, with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free.</p> <p>The biostimulant and physiological enhancement fraction shall consist of <i>Ascophyllum nodosum</i> extract at 6.00% v/v, functioning in auxin and cytokinin modulation and stress tolerance; seaweed extracts (<i>Sargassum</i> and <i>Kappaphycus</i> spp.) at 4.00% v/v, providing cytokinins and trace minerals for physiological stimulation; plant-based protein hydrolysates at 5.00% v/v, supplying readily available amino acids for nitrogen assimilation; humic acid complexes at 8.00% v/v, improving cation exchange capacity and soil structure; fulvic acids (low molecular weight) at 4.00% v/v, enhancing nutrient chelation and membrane permeability; free amino acids (plant-available forms) at 3.00% v/v, supporting protein synthesis and recovery from stress; natural betaine compounds at 2.00% v/v, providing osmotic regulation under heat and drought stress; and polysaccharide-based root exudate mimics at 3.00% v/v, stimulating microbial colonization and rhizosphere stability.</p> <p>The biological pest and nematode suppression fraction shall include <i>Beauveria bassiana</i> at 0.80% v/v, targeting soil-dwelling insect pests; <i>Metarhizium anisopliae</i> at 0.80% v/v, controlling root-zone larvae and grubs; <i>Paccilomyces lilacinus</i> at 0.70% v/v, providing nematode suppression and root protection; <i>Trichoderma harzianum</i> at 0.80% v/v, suppressing root-rot pathogens and enhancing root branching; <i>Trichoderma viride</i> at 0.70% v/v, enabling competitive exclusion of pathogens; <i>Pochonia chlamydosporia</i> at 0.60% v/v, parasitizing nematode eggs; and <i>Purpureocillium lilacinum</i> at 0.60% v/v, delivering advanced nematocidal activity, all with viable count <math>\geq 1 \times 10^9</math> CFU/g, moisture <math>\leq 12\%</math>, contamination-free.</p> <p>The soil structure and physical micro-amendment matrix shall comprise activated fine biochar (high surface area) at 18.00% v/v, providing long-term CEC enhancement and microbial habitat; humate-coated biochar at 8.00% v/v, combining physical structure with biochemical chelation; zeolite (clinoptilolite) at 6.00% v/v, supporting nutrient retention and ammonium buffering; micro-granulated gypsum at 4.00% v/v, improving flocculation and calcium availability; composted lignite/leonardite granules at 6.00% v/v, supplying stable organic carbon and chelation; diatomaceous earth (food-grade) at 3.00% v/v, improving porosity and mechanical pest suppression; perlite (fine horticultural grade) at 3.00% v/v, enhancing aeration and reducing bulk density; vermiculite (fine grade) at 3.00% v/v, providing moisture buffering and CEC enhancement; basalt rock dust (very fine) at 3.00% v/v, supplying trace minerals for long-term nutrient release; soft/reactive rock phosphate at 2.00% v/v, enabling slow phosphorus availability synergistic with AMF; sodium-free bentonite clay at 2.00% v/v, supporting water holding and aggregation; kaolin clay (micro-grade) at 2.00% v/v, moderating texture and adsorbing toxins; calcium carbonate (conditional micro-dose) at 1.00% v/v, providing pH buffering and calcium where soils are acidic; potassium silicate (silicon amendment, micro-dose) at 0.50% v/v, enhancing cell wall strength and stress tolerance; and low-salt cross-linked hydrogel at 0.50% v/v, functioning as a moisture reservoir and drought buffer.</p> <p>The micronutrient and trace element fraction shall include chelated iron (EDDHA/DTPA) at 0.40% v/v, supporting chlorophyll synthesis; chelated zinc (Zn-EDTA) at 0.30% v/v, enabling enzyme activation and growth regulation; chelated manganese at 0.20% v/v, supporting photosynthetic enzyme systems; boron (ultra-low dose) at 0.10% v/v, ensuring cell wall integrity and meristem function; and molybdenum (trace) at 0.05% v/v, acting as a critical co-factor in nitrogen metabolism.</p>	No's	2,130.00	1,985.00	42,28,050.00
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**5** **Periodic Maintenance, Inspection and Re-adjustment of Supplemental Tree Support Systems - Propping, Guying & Bracing) at Quarterly Intervals over 24 Months**

<p>Periodic inspection &amp; re-adjustment of all 124 installed supplemental support systems - Props, Guys and Braces for every 3 months for 24 months - Maintaining Supplemental Tree Support Systems (Guying, Bracing, and Propping) for a Period of 2 Years: Carrying out scheduled maintenance of all installed supplemental support systems—comprising guying, bracing, and propping structures at intervals of every three months over a continuous duration of two years, includes systematically inspecting, adjusting, and realigning each component to ensure continued structural integrity, functional performance, and biological compatibility with the supported tree. The scope of work includes adjusting the tension of guy wires and bracing cables using turnbuckles, based on changes in canopy mass, wind exposure, branch growth, or movement due to physiological expansion, ensuring optimal load distribution and avoiding over-tensioning that may result in tissue damage. Repositioning attachment points—such as belts, slings, and anchor cradles—on the tree's trunk or scaffold branches, wherever bark swelling, cambial growth, or displacement has occurred, to prevent girdling, vascular compression, or mechanical wear, while ensuring non-invasive reattachment that conforms to ISA Best Management Practices and ANSI A300 (Part 3) guidelines. For propping systems, the work includes re-evaluating the vertical orientation and height of each prop, using adjustment mechanism to accommodate natural limb sagging or upward growth, ensuring consistent branch contact with the cushioned angular bracket. The base plates of each prop shall be checked for stability and re-secured or re-leveled if required, especially in areas with soil erosion, root plate disturbance, or slope-induced displacement. All clamps, belts, turnbuckles, and connectors will be examined for corrosion, wear, or material fatigue and replaced promptly with matching ISI-standard components to maintain system longevity and safety. Each quarterly maintenance cycle will include a complete photographic and checklist-based documentation of all trees with support systems, recording pre- and post-maintenance conditions, component replacements, adjustment measurements, and any observations requiring corrective action or future intervention. All work shall be executed by trained personnel using appropriate access methods such as ladders or mobile elevated work platforms (MEWPs). The service provider will be responsible for maintaining the performance, safety, and adaptability of each installed system over the entire 2-year period, ensuring that each support continues to fulfill its intended purpose of reducing risk while preserving tree structure and health within the broader Tree Risk Mitigation and Preservation Framework.</p>	<p>No's</p>	<p>8.00</p>	<p>1,85,000.00</p>	<p>14,80,000.00</p>
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<p>Amount</p>	<p>98,93,771.79</p>
<p>Say Rs.</p>	<p>98,93,772.00</p>
<p>(In words, .....%) Above</p>	<p></p>
<p>(In words, .....%) Below</p>	<p></p>
<p>Amount Rs.</p>	<p></p>
<p>CGST 9%</p>	<p></p>
<p>SGST 9%</p>	<p></p>
<p>Net Amount Rs.</p>	<p></p>
<p>Say Rs.</p>	<p></p>

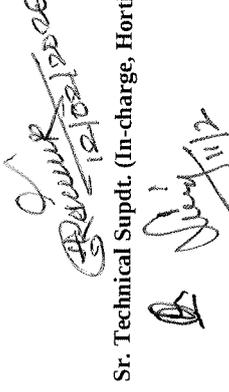
(Rupees in words \_\_\_\_\_)

(Rates for all items & net amount of total to be filled with figure and words. If it is not done, it will be assumed as incomplete tender & tender opening committee will reject your offer at the time of opening of tenders/quotations).

**Note:**

- 1) If you will engage labourer 20 or more any day, you have to get labour licence as per contract Regulation & Abolition Act 1970 Rule 1971, and also, you have to keep all such record for inspection to the Principal Employer. If you will engage labour up to 10 Nos. per day, you have to file returns after completion of work as per Building & Construction Act to the Office of Regional Labour Commissioner (Central), Sion, Mumbai.
- 2) This schedule of work is legal documents of Estate Office, IIT Bombay and directed to enlisted contractors to get the copy of schedule of work to fill the rates and can submit his offer. No changes in schedule of work is allowed i.e. item description , units , quantity, rates, etc. If noticed his offer will be rejected and the contractor will be blacklisted or any other strict action will be initiated against him.
- 3) This work is to be executed as per the clauses mentioned in the tender document signed by you. In addition to the existing safety clause of the tender documents a penalty of Rs. 5,000/- (per case) will be recovered from the bills of the particular work, in case any safety violations are noticed.
- 4) Taxes as per government notification time to time.
- 5) **Tender will be rejected if white ink applied for correction in the schedule of work.**
- 6) Contractor must pay GST Taxes to concern authority within 30 days time limit after receipt of payment from IIT Bombay & said record must be submitted to IIT Bombay Accounts Section, otherwise action will be taken as deemed fit.
- 7) If any malpractices / fraud / negligent professional behaviour or any discrepancy / inconsistency / disparity / deviation / disagreement / dissimilarity / mismatch noticed, their contract will be terminated by issuing one month notice by following legal procedure and will be blacklisted and informed to all Government Authorities and Organisations.

**Signature and Official Stamp of the Contractor**

  
Sr. Technical Supdt. (In-charge, Horticulture)