

E-TENDER DOCUMENT

E-tender for Selection of Architect for Preparation of architectural scheme with allied services including budgetary estimate for the proposed Andhra Pradesh Natural History Park, Museum & Research Institute at Vizag.



Ministry of Culture
Government of India



**NATIONAL COUNCIL OF SCIENCE MUSEUMS
(Ministry of Culture, Govt. of India)
33, Block-GN, Sector-V, Bidhan Nagar
Kolkata-700091**

**INSTRUCTIONS TO THE CONTRACTORS/BIDDERS FOR THE E-SUBMISSION OF THE BIDS
ONLINE THROUGH TENDER SITE <https://eprocure.gov.in/eprocure/app>**

This tender document has been published on the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>

REGISTRATION

- 1) Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "**Click here to Enroll**" on the CPP Portal. Enrolment is free of Charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC"s to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective „My Tenders" folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted.
- 2) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.
- 3) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission Process.

SUBMISSION OF BIDS:-

- 1) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “offline” to pay the Tender Fee & EMD and enter details of DD/any other accepted instrument.
- 4) Bidder should prepare the TENDER FEE & EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the Tender Processing Section, latest by the last date and time of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the
- 5) Scanned copy and the data entered during bid submission time otherwise the Tender will be summarily rejected.
- 6) The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders. The bidder should see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is liable to be rejected
- 7) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. The price bid has been given as a standard BoQ format (BoQ_xxxx.xls) with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the green colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected. In e-Tendering, intending bidder can quote his rate in figures only. The rate in words, amount of each item and total is generated automatically. Therefore, the rate quoted by the bidder in figures shall be taken as correct. The Comparative Statement is also generated automatically. The Comparative statement and rate quoted by each bidder shall be downloaded. **The manual calculation check of bids and comparative statement shall be final. In case, any discrepancy is noticed, the decision of appropriate NCSM authority shall be final and binding.**
- 8) The server time (which is displayed on the bidders" dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission. The bidders are requested to submit the bids through online e-tendering system to the **Tender Inviting Authority (TIA)** well before the bid submission end date & time (as per Server System Clock).
- 9) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- 10) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 11) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 12) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the **Superintending Engineer, National Council of Science Museums, 33, Block-GN, Sec-V, Salt Lake, Kolkata- 700091 or may call us on 033 – 23579347/0850/5545 Extn.249 or Email at.: civil.ncsm@ncsm.gov.in**
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is **1800-3070-2232**.

NOTICE INVITING TENDER (ONLINE)

No: I-15014/11(26)/APNHPMRI/22-23

Dated 18.04.2022

1. **National Council of Science Museums (NCSM)**, an autonomous organisation under the Ministry of Culture, Govt. of India, is the apex body of Science Centres in India.
2. Online e-tenders (lump sum rate basis) are hereby invited from reputed Architects capable of carrying out the work for **“Preparation of architectural scheme with allied services including budgetary estimate for the proposed Andhra Pradesh Natural History Park, Museum & Research Institute (APNHPMRI) at Vizag”**. Scheme shall include drawings, photographs, budgetary cost estimates, 3D views, landscaping & planning and schedule of work etc. to be undertaken for the project.
3. **The Eligibility Criteria: -**
 - i. The architectural firm should have allied professionals like structural consultant, MEPF consultant, HVAC consultant etc. Appropriate documents supporting their status must be submitted. This is an essential requirement.
 - ii. The architectural firm should have at least 10 years of experience in related works.
 - iii. The architectural firm should have proven experience of preparation of **Architectural Schemes/DPR** for at least 02(two) similar museums/cultural spaces with a project out lay of not less than **₹5.00 Crore** each during the last 07 years. Documentary evidence comprising work orders and completion certificates shall be an essential requirement.
 - iv. All relevant documents (self-attested) are to be submitted. The applicant should also attach **consent letters** of the list of associated consultants/ employed professionals for Structural, MEPF, HVAC works.
 - v. The architectural firm should have minimum turnover of at least **₹25.00 Lakhs** in **each of the last 03 (three) financial years**.
4. The place of work would be at **Andhra Pradesh Natural History Park, Museum & Research Institute, Vizag (APNHPMRI) at Education City, Timmapuram, near Bhimili in Vizag**. Agencies/Firms are advised to visit the site and its surroundings and satisfy themselves before submitting their bids. They shall be deemed to have full knowledge of the site whether they inspect it or not and no extra charges consequent upon any misunderstanding or otherwise shall be allowed.

5. **Important Information & Dates:**

Period of completion of work	90 days for the date of issue of the Letter of Intent.
Bid Document Publishing Date& Time	18/04/2022 at 3.00 PM
Bid Document Download Start Date & Time	18/04/2022 at 5.00 PM
Bid Document Download End Date & Time	09/05/2022 at 3.00 PM
Bid submission Start Date & Time	18/04/2022 at 5.00 PM
Pre-bid meeting Date	25/04/2022 at 11.00 AM at NCSM (Hqrs.), Kolkata
Bid submission End Date & Time	09/05/2022 at 3.00 PM
Bid Opening(Technical) Date & Time	10/05/2022 at 3:00 PM

6. The intending tenderers/bidders must read the terms and conditions of NCSM carefully. They should only submit their bid if they consider themselves eligible and if they are in possession of all the documents required.
7. Information and Instructions for tenderers/bidders posted on website shall form a part of the bid document.
8. The NIT and Tender Document can be downloaded from NCSM website www.ncsm.gov.in/ or CPP Portal, Govt. of India <https://eprocure.gov.in/eprocure/app>. The tender to be submitted online on CPP Portal, Govt. of India <https://eprocure.gov.in/eprocure/app>.
9. The financial bids of only those tenderers/bidders shall be opened who have qualified in the Technical Evaluation.
10. Those agencies not registered on the website mentioned above, are required to get themselves registered beforehand.
11. The e-Tenders are invited under two envelopes system. The first electronic envelope will be named as **Technical Envelope** & will contain documents of tenderer's/bidder's in support of their eligibility conditions etc. and the second electronic envelope will be named as **Financial Envelope** containing Rate Quote Sheet. (Lump sum rate basis). The bidder shall submit **TECHNICAL BID ENVELOPE** and **FINANCIAL BID ENVELOPE** simultaneously. The technical bids will be evaluated first and thereafter financial bids of only the eligible tenderers/bidders shall be opened. These envelopes shall contain one set of the following documents: -

a) **TECHNICAL BID ENVELOPE** shall contain the following documents:

- i) Scanned copy of Registration certificate of the firm with list of professional employees and their qualification, along with Credential of the principal architect in .pdf format.
- ii) Scanned copies of specific WORK EXPERIENCE CERTIFICATES/ WORK COMPLETION CERTIFICATE along with Work Order/Letter of intent issued by Govt./Semi-Govt./Autonomous/PSUs and/or Reputed Institution of requisite magnitude with appropriate Authority as per the NIT in .pdf format.
- iii) Scanned copy of details of works in hand in pdf. format (Including project cost and scope of work)
- iv) Scanned copy of UNDERTAKING & DECLARATION (**as per Annexure – “A”**) as per NIT duly signed with company seal in .pdf format.
- v) Self-attested consent letters of the list of associated consultants/ employed professionals for Structural, MEPF, HVAC works in pdf. format.
- vi) Scanned copies of GST registration number & PAN.
- vii) Scanned copy of audited turnover of at least **₹25.00 Lakhs** in each of the last 03(three) financial years.

b) **FINANCIAL BID ENVELOPE** shall contain:

- (i) Rate Quote Sheet in .xls format. Bidders may quote their rate in **Lump sum basis inclusive of all statutory taxes** in this envelope.

12. E-tenders which do not fulfil any of the above conditions or are incomplete in any respect are liable for summary rejection.
13. The Museum/Centre does not bind itself to accept the lowest e-tender/bid and the right to reject or accept any or all the e-tenders/bids, e-tendered items or schedules received without assigning any reason whatsoever.
14. Canvassing in connection with e-tenders/bids is strictly prohibited and the e-tenders/bids submitted by the e-tenderers/bidders who resort to canvassing will be liable for rejection on that ground alone.
15. E-tenders incorporating additional conditions are liable to be rejected.
16. The E-tenderer(s) must declare in writing that neither he nor any of them is in anyway related to any officer in the National Council of Science Museums, Kolkata, or any of its constituent units as per the format given in **Annexure – “A”**.
17. Nothing extra will be payable except for increase on account of statutory taxes, if imposed or levied after the e-tenders are opened or during currency of contract. Taxes shall be paid as per actual.
18. Before submitting the e-tender, the tenderer shall examine all specifications and project brief, conditions of contract/scope of work.
19. For the purpose of opening of the e-tenders/bids as described in the Notice Inviting e-tender, it is clarified that after the authority is satisfied, that the documents in the Technical Bid Envelope are in order, the FINANCIAL BID ENVELOPE may be opened, subsequently.
20. It may be noted that the Technical Bid Envelope which are not found in order as per NATIONAL COUNCIL OF SCIENCE MUSEUMS requirements may be summarily rejected.
21. The date of commencement of work shall be the date of issue of Letter of Intent.
22. The validity period of the e-tender shall be at least 03 (THREE) months from the date of opening of e-tenders. This period may be extended with mutual consent if the decision regarding issue of Letter of Intent is delayed for any reason.
23. The successful bidder has to provide a letter of acceptance to NCSM within three days of receiving of Letter of Intent from the Department.
24. **In case of site visit / visit to NCSM (Hqrs.), Kolkata by the architect or his representatives related to the work (both at Stage-I & Stage-II level), necessary travel, food & lodging arrangements shall be made by the architect himself at no extra cost for their visit.**

Architect Brief of the project

About NCSM: -

National Council of Science Museums (NCSM), an autonomous organisation under the Ministry of Culture, Govt. of India, is the apex body of Science Centres in India. It is primarily engaged in popularising science and technology among the students in particular and common public in general and in creating a scientific temper in society. NCSM administers 25 science centres and museums all over India, situated in metropolitan cities, state capitals and district headquarters and it has developed 24 more Science Centre which have been handed over to respective States and Union Territories. It also conducts mobile science exhibitions throughout the country and organises travelling exhibitions in India and abroad.

Concept: -

Andhra Pradesh Natural History Park, Museum & Research Institute, (APNHMP&RI), Vizag is being developed at Visakhapatnam with an aim to create a world class facility on the lines of Natural History Museum, London and New York to create awareness, collect, preserve and document natural history objects of historical importance, display & conduct research in the area of formation and evolution of Earth, Origin and Evolution of Life, Oceans, Geology of Earth- like, rocks, minerals, fossils, gems, climate change, resources, Ecosystems, energy sources etc. among general public, especially students. As stated above, this museums and Research institute deals with Bio, Geo, Paleo & Environmental Sciences. Under bio-sciences, it will display pre-historic and present day animal and plant life forms including human evolution. Under Geo sciences, it will depict formation of Earth, its components, treasures hidden in Earth and dynamics of Earth. A third element which is interlinked with these two is Environment and its ecosystems. This section deals with their habitats, life forms and their interaction with their environment. **Three fourths of the Earth covered with Oceans which hosts large number of life forms. Oceanography centre deals with science of these life forms.**

Nature of this Natural History Park and Museum shall be innovative, creative, interactive, and immersive besides being having true Natural History Museums' essence across the world. Galleries, displays will have both natural history soul and hands on and interactive exhibits' liveliness. It should be a combination of grandeur of natural history museums and present day creative, innovative and technology oriented exhibits and displays.

Land Area & Location

Requisite land measuring **15.00 Acre** has been earmarked for the proposed **Andhra Pradesh Natural History Park, Museum & Research Institute, Vizag (APNHMPRI) at Education City, Timmapuram, near Bhimili in Vizag.**

Content: -

The building comprising various facilities will have a covered area of not more than 5200 Sq.mtr in modules or otherwise at split level in Phase-I. The area includes complete circulation area. It will have possibilities for a lateral expansion of further 3400 Sq.mtr. in future (Phase-II). The entire plan should be done in such a way that the building in the first phase with 5200 Sq.mtr. looks complete. However, basic drawings and inputs are required for entire 8600 Sqm area showing 5200Sqm in Phase-I and 3400Sqm in Phase-II. The building could be double storied and outdoor Natural History Park in the foreground/background. The main visitors' entrance to the building shall be at the ground floor level of the building. Lift and ramp facility may be thought for accessibility of differently abled visitors. The entire plan should be done in such a way that all buildings and campus layout including outdoor park along with other amenities shall be displayed in 15 acres (including both the phases).

Main Components of the APNHPMRI, Vizag

Building

Natural History Park, Museum and Research Institute will be housed in a simple, yet elegant building following green norms, energy saving architecture and close to the soul of the nature. Building shape may be of some live form and any other form which will be iconic in nature but more of economic. For any museums especially natural history museums, their rich collections, exhibits, displays, in house and outreach programmes are most essential things.

Area Statement

Sl. No	Facility	Area
Phase –I - Natural History Museum		
A. Natural History Museum (Indoor) - 3900 Sqm.		
(i)	Reception Hall	250 Sqm.
(ii)	Indoor Exhibition Halls (06 exhibition halls @ 350 Sqm.)	2100 Sqm.
(iii)	Visitors' Activity Area	800 Sqm.
(iv)	Exhibit Development Laboratory, Stores, Administrative office etc.	750 Sqm.
B. Research Institute – 1300 Sqm.		
(i)	05 (five) Laboratories (200 x5)	1000 Sqm.
(ii)	Reception Hall	100 Sqm.
(iii)	Lobby, Passages etc.	150 Sqm.
(iv)	Toilet Block	50 Sqm.
C. Biodiversity Park cum Natural History Park (Outdoor) – Approx. 3.4 Acre Area		

Phase –II - Natural History Museum		
A. Natural History Museum - 2100 Sqm.		
i.	Indoor Exhibition Halls with allied facilities related to Natural History Museum.	2100 Sqm.
B. Research Institute - 1300 Sqm.		
i.	Five (05) Research Laboratories with allied facilities	1300 Sqm.

Phase – I:

A. Natural History Museum (Indoor) – (3900 Sqm.)

The following structures are required to be completed for Natural History Museum.

(i) Reception Hall (250 Sqm.)

An enquiry desk with PABX and glass shelves for souvenirs, wall space for charts and photographs, small cubicles with glass front for Duty Officer and First-Aid room, space for placing one or two interesting exhibits at the centre and visitors seating facility, information kiosks & boards, visitor interpretation area & souvenir counter. **(250 Sqm.)**

(ii) Indoor Exhibition Halls (2100 Sqm.)

Six (06) exhibition halls on the following themes with maximum wall space and 15A electrical power plug with switch and fuse on the walls at about 5-metre interval and on each of the central pillars, electrical power points at the ceiling in central area (in between pillars/beams).

(3x300 Sqm., 1x450sqm, 1x500sqm and 1x250 sqm) = 2100 Sqm.

(a) Origin & Evolution of Life and Human Evolution- Depicts about how life formed and subsequent evolution up to Homo sapiens
450 Sqm.

(b) Bio-diversity & Ecosystems – will depict the plant and animal diversity and their environments especially in India.
300 Sqm.

(c) Hall of Rocks, Minerals, Crystals & Fossils- Depicts Earth's treasures and how they are helping in our existence and understanding our past.
300 Sqm.

(d) The Earth, its dynamics & constituents- Exhibition hall based on Formation & Evolution of Earth & its dynamics – Formation of Earth started more than 4 billion years ago. Since then it is evolving continuously. These changes are significant in shaping life forms in terms of zoo geography. Also Geo morphological features of this beautiful planet are unique. This exhibition shows cases these features and their formation over the period. Earth's environmental conditions are changing very fast in the last few hundred years since industrialization. **A special section on "Special Geological Features of the Vizag Area"**
500 Sqm.

(e) Planetary Sciences – This section deals with our Universe, Milky way, planets and their features.
250 Sqm.

(f) Temporary Exhibition Hall – A temporary exhibition to display contemporary and temporary exhibition on related topics.
300 Sqm.

The area will need special requirements as follows:

- Each hall should have long space without interfering columns.
- Suitable windows for ventilation.
- High Doors suitable for exhibit entry.
- Floor to Floor height of hall will be minimum 5.2m (approx.)

(iii) Visitors' Activity Area (800 Sqm.)

This group shall have a separate entrance at the ground level so that the visitors can enter at times when the main exhibition hall of the museum may be closed to the public. There shall, however, be also an interlinking inside the building with the main exhibition halls. Following facilities are to be provided:

- (a) An air-conditioned full-fledged auditorium for 150 to 200 persons. Acoustically treated to a reasonable extent, dais (size 5m x 10m) for seating 6 persons with a small attached green room V.I.P. room and toilet, Control room for PA system and light, film screen-cum-black board on the dais.

300 Sqm.

- (b) Training Hall cum Demonstration Area – open hall for placing 2.5 mtr. x 1 mtr. worktables for conducting training programmes and exposure oriented activities for different target groups, wall space for racks and shelves and information charts, two large sinks with water connections and place for carrying out science demonstrations.

200 Sqm.

- (c) 3D Show hall on Nature/Biodiversity etc. (approx. 50 seater)

100 Sqm.

- (d) Separate toilets for visitors (Ladies and Gents) with storage space for cleaning materials, water cooler (outside). A small lobby in between auditorium, temporary exhibition hall and activity/training halls.

100 Sqm.

- (e) A library with racks, film storage, small reading room and journal racks etc.

100 Sqm.

(iv) Exhibit Development Laboratory, Stores, Administrative office etc. (750 Sqm.)

This area is entirely for the staff of the APNHPMRI and will, therefore, be isolated from the public areas and have a separate entrance on the ground floor from the backside of the building as well link from ground floor public area.

- (a) Exhibit Development Laboratory will be having at least one cubicle with glass front of size 12 sq.mtr. each. Provision for erecting two more cubicles in future may be kept. An open hall for placing non-vibrating type and light duty machine such as lathe, circular saw, band saw, sheet metal bending machine, bench drill machine, grinder etc., and 2.5 mtr. x 1 mtr. Worktables for fitting, sheet metal work, assembly of components, electrical and electronic work, painting job etc. Suitable flooring capable of taking load of heavy machines/materials, hammering etc. shall be provided.

150 Sqm.

- (b) Stores area for storage of exhibits, hardware materials, electrical and electronic materials, paints, timber, ply board, decolam, glass, acrylic sheets etc. for exhibit development and repair & maintenance. The store shall be well secured, without windows, clear 2M entrance with working space for the Store Keeper in the front. Suitable flooring shall be provided. 150 Sqm.
- (c) Administrative office open hall for office staff, space for photocopying machine and racks for papers, files etc. Suitable flooring shall be provided. 100 Sqm.
- (d) Toilet – Separate for Ladies and Gents and Physically challenged, storage for cleaning materials, water cooler (outside), lobby, passages visitors circulation etc. 50 Sqm.
- (e) Lobby, passages, visitors' circulation area etc. 300 Sqm.

B. Research Institute – 1300 Sqm

The Research Institute with followings five (05) labs is to be completed in Phase –I.

(5x 200) = 1000 Sqm

(i) **05 (five) Laboratories**

(a) Laboratory-1:

Microscopy and microanalysis laboratory. It will have imaging facility that would include a suite of microscopy and microanalysis techniques such as, Scanning Electron Microscopes, Confocal Laser Scanning Microscope, a Fluorescence and Transmitted Light Microscope, along with a wet chemical facility for sample preparation. In addition, there will be access to a broad range of geological sample preparation facilities, including ultra-fine saws and micro sampling devices. Complementary computing capabilities enable manipulation and processing of all data acquired within the facility to provide a shared resource for scientific imaging, analytical microscopy and related image processing. Specific requested equipment: Table top X-ray fluorescence• Bright field microscopes along with a range of objectives and cameras• Polarising microscopes• Fourier Transform Infrared (FT-IR) spectrophotometer•

(b) Laboratory-2:

Digitization, animation and modelling laboratory. This laboratory will contain several digitization stations to digitize and preserve literature and specimens. This laboratory can supplement traditional 2D methods with CT scanning, 3D surface scan. This laboratory will strongly support the goal towards building digital version of specimens, for example, the digital versions of their DNA, sound recordings of animals, surfaces and innards. With this laboratory, it is possible to translate technology into the museum more readily, which in turn opens new doors into saving, studying and archiving one-time collecting events. Specific requested equipment: 3D laser digital scanners• Large area scanners• Selected elements of an Immersive Virtual Reality Cave for digital experience - remainder costs for the Cave will be raised from other sources.

(c) Laboratory-3:

Rapid prototyping laboratory. The objective of this laboratory is leverage modern 3D technologies to support both the scientific work of museums (3D digitalization, restoration, 3D replicas) and for improved visitor interactions within the museums. There are a large range of 3D scanners and 3D printing technologies that makes use of polymers, ceramics, plastics etc. to recreate accurately and precisely the scanned images. Specific requested equipment: Suite of 3D printers with certain printers more suited for small parts having high resolution (resolution down to 50 µm), and other printers that are suited for large parts in the 10's cm scale (and beyond) albeit with lower resolution Software tools for preparing CAD tools • Computer Numerical Control (CNC) tools for milling precision parts •

(d) Laboratory- 4:

Conservation laboratory. This laboratory works alongside other laboratories and the museum at NHPM-Vizag to conserve (to care for and preserve) and investigate the collection for the benefit of present and future generations. This laboratory will be able to provide insights into the past through research on the collection. By using both traditional and the very latest methods and equipment they are able to answer questions that help with the interpretation and understanding of the collection including, how old the specimens are, where do they come from, what are they made of, and how were they made. In addition, this laboratory will also initially be the hotspot for programming and database management. The lab also has numerous workstations for geo-referencing of specimen locality data, and provides a facility for GIS. Specific requested equipment: Advanced temperature, humidity CO2, and micro-environment monitoring and characterization • equipment. This will additionally also be useful in regularly controlling display and storage environments, Fridges, Freezers (-20 C), Deep freezers (-80 C), liquid nitrogen storage tanks • Freeze-drying system • Fume hoods for sample preparations for cryopreservation • Digital archiving equipment for long-term curation of data.

(e) Laboratory-5:

Bio/geological(s), genetics and evolution. This laboratory would include automated DNA sequencing cores and other equipment to conduct research in evolution and comparative genomics. Significant research areas include assembling the tree of life for a variety of organisms, microbial diversity, and conservation genetics. This laboratory will also strive to increase a repository of frozen biomaterials spanning the diversity of life on the planet. Specific requested equipment: Bio-hood and sample preparation station for biological samples • Genetic amplification equipment • Automated gel electrophoresis system and related separation and identification equipment. DNA sequencer and related equipment for genotyping. Basic molecular chemistry/biology facilities including centrifuge, autoclave, hot plates etc. Refrigeration systems specifically dedicated for biological research • In addition, a library will be set-up comprising relevant magazines and journals and also arch

(ii)	Reception Hall	100 Sqm.
(iii)	Lobby, Passages etc.	150 Sqm.
(iv)	Toilet Block	50 Sqm.

C. Biodiversity Park cum Natural History Park (Outdoor) - Approx. 3 to 4 Acre Area

This will be a landscaped open air area where exhibits will be placed aesthetically in the lush greenery of the park with attractive garden pathways. The following facilities is proposed to be set up in the outdoor park.

- a. Butterfly Vivarium
- b. Botanical Garden
- c. Dinosaur Park
- d. Display of big fossils/Rocks
- e. Bio-domes
- f. Parking space and other utilities

Apart from the exhibits, the park will contain picnic area for visitors and medicinal plant corner etc. The park will be developed in such a way that it will merge with the greenery and available ambience. The park will also have lawns, shrubs and hedges along the garden pathway and tall trees in the boundary as per the requirement of landscaping. Separate toilets for visitors (Ladies and Gents) with janitor room etc. covering a minimum space of 50 Sq. mtrs may also be provided in the park.

Phase - II

Provision is required to be kept for future expansion in Phase –II for the following components:

(A) Indoor Exhibition Halls with allied facilities related to Natural History Museum. (2100 Sqm.)

i) Oceanography Centre with small Oceanarium	-	600 sq.m
ii) Hall of fossils	-	400 sq.m
iii) Collection storage facility	-	400 sq.m
iv) Storage for casts of specimens, fossils etc.	-	200 sq.m
v) Allied facilities	-	500 sq.m

(B) Five (05) Research Laboratories with allied facilities. (1300 Sqm.)

Suggestive guidelines

- **General floor to floor height may be considered as minimum 5.20 mtr. In the Entrance Reception area, double height floor may be considered.**
- **Provisions may be kept for installation of solar roof top panels.**
- **In the construction of the building priority/preference may be given to local materials, labour, expertise in order to encourage local community participation. Use of renewal energy, energy saving devices may be given top preferences.**
- **The building should be designed keeping applicable fire safety norms of the location and National Building Code (NBC).**
- **It may also be designed as per local authority building norms.**

General

(I) Capacity:

The APNHPMRI is being planned for an average intake of about 1000 visitors per day (over 8 hours). A typical holiday crowd may reach a figure as high as 3000.

(II) Finance & Time:

The cost of building construction and other services shall not exceed **₹35.00 Crore in Phase-I** which includes Landscaped Biodiversity cum Natural History Park, pathways, outside lighting, garden toilet block, etc. The APNHPMRI will be opened to the public in 30 months from the date of start of the construction work, in which the time for construction of building and services shall be 21 months.

(III) Architectural Feature:

The architecture will reflect the right combination of attractive design, economy, efficient, functional utilisation of space, cost effectiveness, environment friendly and should include the local architecture of the area.

Scope of the Work

(A) Stage – I

Inspection of site, study of local requirement, preparation, submission & presentation of Master plan including landscape, preliminary sketch and indicative budget estimate as per requirement already furnished in NIT.

(Contour & topographical plan of the site premises to be made available by NCSM, if required.)

(B) Stage – II

After getting approval of the basic scheme by NCSM, preparation of Presentation Drawings including Plan, Elevation, Section etc. of each unit with block layout showing the location of various facilities. Deliverables are as under:

- Preparation of Perspective drawings of individual buildings/facilities and a bird's eye 3D view of the entire APNHPMRI premises showing all the existing & proposed buildings/facilities.
- Preparation of a walk through presentation of the project.
- Preparation of preliminary budgetary estimate for Civil, Structural, Sanitary/Plumbing, Fire Fighting & Fire Detection works, External Drainage Installations, HVAC, Internal & External Electrification works, Landscaping works, Lifts etc. on the basis of DPAR – 2021.
- The agency shall provide drawings, photographs, planning and schedule of work etc. to be undertaken for the project.
- Upon completion of job, 5 sets of hard copies of all the drawings, estimates and other inputs are to be submitted along with a soft copy in editable format.

Note: -

1. It may be noted that the Architectural Scheme and all related drawings and deliverables for the project shall become the property of APNHPMRI / NCSM. APNHPMRI/ NCSM shall reserve the right to use/modify/reproduce such architectural scheme/ related drawings and deliverables in future as per requirement.
2. The cost of building construction and other services shall not exceed ₹35.00 Crore in Phase-I.
3. The architect may subsequently be required to provide assistance during preparation of contents for the APNHPMRI for finalization of DPR at no extra cost.

Stages of Payment: -

- i) 25% of the quoted fee shall be paid to the agency after completion of **Stage-I** of the Scope of work.
- ii) 60% of the quoted fee shall be paid to the agency after completion of **Stage-II** of the Scope of work.
- iii) 15% of the quoted fee shall be paid to the agency after the final approval & acceptance of the architectural scheme & allied work by the competent authority of APNHPMRI / NCSM in consultation with the technical team after finalization of content for Andhra Pradesh Natural History Park, Museum & Research Institute (APNHPMRI) at Vizag.

Note: - No advance payment shall be made for the work to the agency.

FORMAT FOR LETTER OF INTENT*

.....
(Mention file number)

Date.....

Sub: Letter of Intent for the work of

Dear Sirs,

With reference to your e-tender dated(and further clarification vide letter number dated) # it is intended to award the aforesaid work at the e-tendered amount of `.....
(Value based on only items of work intended to be awarded for execution)

You are, therefore, requested to sign an agreement as per standard format already printed in the e-tender documents purchased by you while e-tendering for this job. For this purpose, you are requested to send us a non-judicial stamp paper of appropriate value for preparing the contract Agreement within a week from the date of this letter.

Please note that the work has to be completed within,,,,,,,,,,,,, months from the date of LOI. The date of commencement of work would be reckoned as the date of issue of this letter.

Thanking you,

Yours faithfully,

Sd/-
Controller of Administration *

(Format for Declarations & Undertaking to be typed on bidder agency’s letterhead and to be submitted with bid document in the Portal)

DECLARATION -1

This is to certify that neither I/we/any of us is in anyway related to any employee in the National Council of Science Museums, Kolkata, or any of its constituent units.

Date: (Signature of the Applicant)
with company seal/rubber stamp
Place:

DECLARATION -2

I/We hereby declare that I/we have not quoted any extra terms & condition along with the bid documents.

Date: (Signature of the Applicant)
with company seal/rubber stamp
Place:

UNDERTAKING

This is to certify that I/We have carefully gone through the specifications, term and conditions etc. given in the e-tender document & have clearly understood the site working conditions, time schedule given and have accordingly quoted my rates after going through all details.

I/we hereby give an undertaking that I/we shall carryout the work strictly as per the given specifications, and shall complete the same within the stipulated time frame.

Date: (Signature of the Applicant)
with company seal/rubber stamp
Place:

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