



1. Introduction

The Large High Performance Outdoor Shake Table (LHPOST) was conceptually designed as a 6-DOF shake table. However, it was constructed as a single axis (i.e. 1DOF) shake table to accommodate the funding available at the time. The National Science Foundation (NSF) has recently awarded UCSD funding to upgrade the shake table to 6-DOF. The upgrade will enable the LHPOST to operate along all six degrees of freedom (6-DOF). This will be achieved by doubling the number of horizontal actuators to four, adding a third hold-down strut at the center of the table platen, and powering the six vertical actuators with a high-flow and high-speed servo-valves. MTS Systems has been retained to design and manufacture the shake table upgrade. The seven modules included in this RFQ are designed and specified by MTS Systems to support that upgrade.

The purpose of this Request for Quotation (“RFQ”) is to invite qualified bidders to submit bids to manufacture each of the system components for the Shake Table upgrade. This RFQ will consist of seven independent modules (two variations of Module 3) which will be evaluated and awarded separately. Suppliers shall submit Best Cost Proposals for each module. Suppliers need not submit bids for every module – each will be evaluated and awarded independently. This RFQ will be evaluated based on the lowest cost submitted by a qualified Bidder.

2. RFQ Timeline, Contract Term and Point of Contact

Schedule of Events

Activity	Date
Release of Electronic RFQ	Monday, October 7, 2019
Deadline for Supplier RFI’s via Discussion Forum	Thursday, October 17, 2019
University’s Response to Supplier RFI’s	Friday, October 18, 2019
RFQ Submittal	Thursday, October 25, 2019, 2:00 PM PDT
Selection and Notification of Apparent Awardee of each module	Up to 30 days after RFQ Submittal

The University reserves the right to modify the above schedule of events and make changes to other provisions in this RFQ. It is the Bidder’s responsibility to read the entire document and any addendums, and to comply with all requirements listed herein.

University Terms and Conditions

All contracts and agreements pertaining to this RFQ shall be governed by the University Terms and Conditions (see Attachment B).

Addenda, Clarifications and/or Modifications

The University reserves the right to amend, insert, or delete any item in this RFQ if it is determined to be in the best interest of the University. If it becomes necessary to revise any part of this RFQ, a written addendum to the solicitation will be emailed to all proposing Bidders. The University will not be bound by, and the Bidder shall not rely on, any oral or written communication or representation regarding this RFQ except to the extent that it is contained in an addendum to the RFQ or the Questions and Answers as emailed to bidders, and is not superseded by a later addendum to this RFQ.

RFQ Recipients

For ease of reference, each firm(s) receiving this RFQ is referred to as a "Firm", "Bidder", "Vendor" or "Supplier" and the Firm(s) selected to provide services for the University is referred to as the "Selected Firm(s)." This RFQ states the



instructions for submitting proposals, the procedure and criteria by which a Firm may be selected, and the contractual terms by which the University proposes to govern the relationship between it and the Selected Firm(s).

Small Business and Diverse Businesses

It is the policy of UC San Diego to contribute to the establishment, preservation, and strengthening of local small and diversified businesses, and to encourage their participation in our progressive Supply Chain Procurement activities and initiatives. UC San Diego encourages certified firms to provide for the participation of small and diversified businesses through partnerships, subcontracts, or other contractual and performance opportunities. For more about certification, go to <http://ipps.ucsd.edu/sbdo/interest.html#Certification-Assistance>.

Prevailing Wages

The Selected Firm will be required to pay prevailing wages for all services conducted on the University campus or property. The work described in the RFQ is a public work subject to California Labor Code section 1771. No contractor or subcontractor may be listed on a bid for the work unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded any portion of the work unless registered with the DIR pursuant to Labor Code section 1725.5. The Selected Firm will be required to post the applicable prevailing wage rate determination and any job site notices as prescribed by the DIR. The work is subject to compliance monitoring and enforcement by the DIR.

Invoicing method

UC San Diego has partnered with Transcepta Global Network for invoice automation. Participation is free and registration and connection only takes a few minutes. Transcepta accepts invoices in the following ways: email, virtual printer, cXML, and EDI. For more information on Transcepta refer to <http://ipps.ucsd.edu/resources/invoicing-payments/electronic-invoicing-with-transcepta.html>.

Payment Method and Terms

As a UC San Diego supplier you have the opportunity to receive payment via our preferred payment option, Virtual Credit Card. Virtual Credit Card is a card-less Visa credit card product. Credit card number and credentials are emailed to your selected Accounts Receivable contact. Terms are net 10 days. **Standard credit card processing fees apply.** For more information on this payment method refer to <http://ipps.ucsd.edu/resources/invoicing-payments/virtual-card-paymentplus.html>. Suppliers have the option to decline the Virtual Card payment and elect to use longer term options with no processing fees.

Single Point of Contact

This RFQ shall be issued and administered through the UC San Diego Procurements office utilizing the CalUSource bidding tool. Bidders may register at the UC San Diego IPPS website: <http://ipps.ucsd.edu/>. Supplier registration can be found in the "Explore Opportunities" section and there is no cost to register. All bidding documents, notifications and RFI questions / responses shall be posted on the CalUSource website. Suppliers may also be solicited outside of the CalUSource site and proposal submittals shall be accepted through the website or e-mailed to the Administrators.



The University RFQ Administrator(s) is the sole point of contact regarding all procurement and contractual matters relating to the requirements described in this RFQ; and is the only office authorized to change, modify, clarify, etc., the specifications, terms and conditions of this RFQ and any agreement(s) awarded as a result of this RFQ. All questions and requests for clarification concerning this RFQ should be entered into the CalUsource Discussion Forum by the questions deadline indicated in the Schedule of Events.

For questions regarding scope or intent of RFQ, please contact:

Gary Oshima
Construction Commodity Manager
(858) 534-2557
gmoshima@ucsd.edu

For technical assistance with the CalUsource webpage, please e-mail:

Lynda Ta
Strategic Sourcing Specialist
l2ta@ucsd.edu

3. Attachments

In addition to this document, the following exhibits posted under Attachments in CalUsource contain the requirements, terms and conditions for this RFQ:

- A. Cost Proposal Bid Sheet
- B. University Terms and Conditions
- C. Design drawings for each Module
 - 1. Part #1 – Reaction Mass Crash System Backing Plate
 - 2. Part #2 – Reaction Mass Crash System Lining Plate
 - 3. Part #3 - 100-482-285 – Plate – Mounting, Horizontal Actuator
 - 4. Part #4 – Safety Towers
 - 5. Part #5 - 100-487-421 – Plate – Bearing Wear, Vertical Actuator Ends
 - 6. Part #6 - 100-487-422 – Plate – Bearing Wear, Vertical Actuator Center
 - 7. Part #7 - 100-485-363 – Loading Plate – Over-travel Stop – Y-Axis

4. Minimum Requirements

- A. Bidder must demonstrate successful experience in providing the products and services specified in this RFQ as a primary supplier. Bidder must have 10 years of experience in this type of fabrication. Bidders shall submit references for their three largest clients for projects of similar size/scope.

5. Scope of Work

Supplier agrees to fabricate each of the parts described in each module. Bidders need not respond to all modules to be considered for award.

- A. **Module 1** - Part #1-Reaction mass crash system backing plate
 - a. Metal Plates to be mounted on the walls of the concrete reaction mass at the four corners of the table (platen) to absorb energy from any uncontrolled table movement via the crash system absorption device hitting this plate. Four plates required.



- b. Fabrication Duration: Two (2) – months after award notification.
- B. **Module 2** - Part #2-Reaction mass crash system lining plate
 - a. Sacrificial wear Plates to be mounted on the surface of the Metal Plates at the four corners of the table (platen) to absorb energy from any uncontrolled table movement via the crash system absorption device hitting this plate. Four plates required.
 - b. Fabrication Duration: Two (2) – months after award notification.
- C. **Module 3A** - Part #3-100482285 PLATE - MOUNTING, HORIZONTAL ACTUATOR
 - a. Metal Plate assembly mounted on the wall of the concrete reaction mass to allow pinned connection of the horizontal actuators which provide for “X” & “Y” table direction movement along with factoring into “Yaw”, “Pitch”, and “Roll” thru computer control. UCSD is planning on re-using two existing Part #3 mounting plates with modification – **Module 3A to include two (2) Part #3 plates.**
 - b. Fabrication Duration: Two (2) – months after award notification.
- D. **Module 3B** - Part #3-100482285 PLATE - MOUNTING, HORIZONTAL ACTUATOR
 - a. Metal Plate assembly mounted on the wall of the concrete reaction mass to allow pinned connection of the horizontal actuators which provide for “X” & “Y” table direction movement along with factoring into “Yaw”, “Pitch”, and “Roll” thru computer control. If UCSD decides not to re-use two existing mounting plates then four (4) new mounting plates will be required – **Module 3B to include four (4) Part #3 plates.**
 - b. Fabrication Duration: Two (2) – months after award notification.
- E. **Module 4** - Safety Towers
 - a. This part comprises four (4) lattice towers to assist safety during testing of tall buildings on the shaking table.
 - b. Fabrication Duration: Two (2) – months after award notification.
- F. **Module 5** - Part #5-100487421 PLATE - BEARING WEAR, VERTICAL ACTR (ENDS)
 - a. This part will be installed on the underside of the existing platen replacing the existing plates at the four corners and provide a surface for the vertical actuator disc to slide on during table movement. The four pieces required are larger than the existing plates to provide the six degree of freedom movement desired. Four plates required.
 - b. Fabrication Duration: Two (2) – months after award notification.
- G. **Module 6** - Part #6-100487422 PLATE - BEARING WEAR, VERTICAL ACTR (CENTER)
 - a. This part will be installed on the underside of the existing platen replacing the existing plates at the two center locations and provide a surface for the vertical actuator disc to slide on during table movement. The two pieces required are larger than the existing plates to provide the six degree of freedom movement desired. Two plates required.
 - b. Fabrication Duration: Two (2) – months after award notification.
- H. **Module 7** - Part #7-100485363 LOADING PLATE - OVERTRAVEL STOP, Y-AXIS



- a. This part will be installed at the four corners of the table in a vertical position and is designed to have the energy dissipation device MTS is providing mounted on this loading plate. This assembly thru the energy dissipation device when installed would hit the YAW Wear Plate (Part #2) described above. The loading plate will be attached top and bottom to the existing 2 inch thick steel top and bottom plates on the existing platen. Four plates required.
- b. Fabrication Duration: Two (2) – months after award notification.

6. Payment Schedules

- A. 30% upon award
- B. 60% at delivery subject to University factory inspection prior to shipment
- C. 10% after installation

7. Minimum Submission Requirements

- A. Submit completed Cost Proposal Bid Sheet (Attachment A). Bidders are not required to submit bids for all modules – each module will be awarded separately.
- B. Submit list of References per Section 4A.
- C. All parts in all modules of this RFP qualify for the California Research Tax Exemption and are subject to a tax rate of 3.8125% instead of the standard 7.75% rate. Proposals shall include the reduced taxes on the proposal.

8. Evaluation Criteria

Evaluation and Award: Lowest Cost

The University will review each Proposal to determine if all the RFQ requirements have been met. Proposals that meet all RFQ requirements will be considered responsive. Proposals that do not meet all RFQ requirements will be considered non-responsive and receive no further consideration.

The University will determine which of the responsive bids has the lowest overall cost. The University will then determine if the Bidder submitting the lowest responsive Proposal is responsible. The apparent RFQ winner will be the responsible Bidder submitting the lowest responsive Proposal.

Right to Cancel/Modify

The University reserves the right to change any aspect of, terminate, or delay this RFQ, the RFQ process and/or the program outlined within this RFQ at any time. Notice shall be provided in a timely manner thereafter. The University may award the contract without further discussion or may enter into negotiations with the apparent RFQ winner. Should the apparent RFQ winner fail to accept the award, the University may determine that that Bidder has abandoned its Proposal. The University may then enter into negotiations with the responsible Bidder submitting the second Best Value Proposal. If that Bidder fails to accept the award, the University may determine that that Bidder has abandoned its Proposal and enter into negotiations with the responsible Bidder submitting the third Best Value Proposal and so on to each successive responsible Best Value Bidder until an award is made and accepted.



Right to Make No Award

The University reserves the right to reject any or all Proposals and to make no award. Unless stated otherwise in this RFQ, the University reserves the right to make multiple awards or to award items separately or in the aggregate as the interests of University may appear.

Contract Form

Any contract awarded pursuant to this RFQ will be in writing and incorporate the RFQ requirements and specifications, as well the contents of the Bidder's Proposal as accepted by the University.