



State of Rhode Island  
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Solicitation Information  
March 4, 2016

ADDENDUM # 2

RFP # 7550284

**TITLE: AUDIO VISUAL CHEMISTRY AND FORENSIC SCIENCE CENTER,  
UNIVERSITY OF RHODE ISLAND**

**Submission Deadline: Tuesday March 22, 2016 at 1:00 PM (Local Time)**

**Note to vendors:**

- Attached includes system programming changes
- The second pre bid conference scheduled for Tuesday March 8, 2016 at 11:30 AM at:  
*Office of Capital Projects  
Sherman Building  
60 Tootell Rd.  
Kingston, RI 02881*

**WILL BE NON-MANDATORY BUT VENDORS ARE ENCOURAGED TO ATTEND**

Any questions may be submitted to [Thomas.bovis@purchasing.ri.gov](mailto:Thomas.bovis@purchasing.ri.gov) no later than 3/11/2016 at 4 PM. Questions, if any, with responses will be posted on the purchasing website as an addendum.

**Tom Bovis  
Interdepartmental Project Manager**

*Interested parties should monitor this website, on a regular basis, for any additional information that may be posted*

**University of Rhode Island**  
**Audio / Visual Package**  
**New Center for Chemistry & Forensic Science**  
**Kingston, Rhode Island**

**BID DOCUMENTS ADDENDUM No. 2**

March 04, 2016

The attention of Bidders submitting Bid Proposals for the subject project at The University of Rhode Island is called to the following addendum to the **INVITATION TO BID**. The items set forth herein, whether of omission, addition, substitution, or clarifications are all to be included in and form a part of the proposal submitted.

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This addendum modifies and becomes a part of The University of Rhode Island Audio / Visual Package - New Center for Chemistry & Forensic Science – Bid Package dated January 05, 2016 as indicated below.

All work called for shall comply with requirements for similar work unless otherwise specified.

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**This Addendum includes the following:**

**GENERAL**

This Addendum includes furniture modifications to drawings and specifications. Drawing modifications may include new drawings, reissued drawings, and sketches showing revisions to existing drawings or written descriptions of revisions to existing drawings or specifications.

Notification to Bidders:

The Bid Due Date remains as March 22, 2016 at 1:00 PM (Local Time).

Procurement and Contracting Requirements:

No Revisions

General Requirements:

No Revisions

**Audio / Visual**

Specifications:

**SECTION 27 4100 – AUDIO VISUAL SYSTEMS**

Delete existing Section 27 4100 Audio Visual Systems dated January 12, 2016 and replace with Section 27 4100 Audio Visual Systems dated March 04, 2016 attached to and part of this addendum. The revision adds additional programming requirements.

Addendum No. 2  
March 04, 2016

*URI Audio / Visual Package  
New Center for Chemistry & Forensic Science  
Project No.: KC.G.CHEM.2009.001  
Bid Package – January 05, 2016*

**BID DOCUMENTS - ADDENDUM No. 2**

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Drawings:

No revisions

**BIDDER QUESTIONS**

No Questions

**END OF ADDENDUM NO. 2**

Addendum No. 2  
March 04, 2016

## SECTION 274000 - AUDIOVISUAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this section.
- B. The conditions of the Contract and General Requirements of the Project Manual apply to the General Contractor, Subcontractor, material suppliers, and other persons furnishing labor and materials under this Section. General and applicable parts of Division 1 are included as part of this Section.

#### 1.2 SUMMARY

- A. Furnish and install audiovisual, control, projection, lighting, speaker, touch screen, display, teleconferencing, and related systems as shown on associated drawings. Systems are to include cables, accessories, and miscellaneous items to ensure a complete and operational installation.
  - 1. Examine drawings, details, and other sections of the specifications for requirements, which affect work under this section.
  - 2. Furnish materials in quantities sufficient for a complete installation(s) as indicated in drawings and in this specification, whether or not such components are contained in the drawings and specifications.

#### 1.3 RELATED WORK

- A. Raceways
- B. Outlet Boxes
- C. Supporting Devices
- D. Equality of Materials: The words "or equal" are understood to follow names of specified products, trade names, catalog numbers, and detailed descriptions and will be interpreted to mean any material, article, assembly or system, which must be demonstrated by the provider, to be equal in quality, durability, appearance, strength, design performance standards, and operating characteristics to the equipment specified, and will perform equally the functions imposed by the general design. The words "or equal" will not be construed to permit substantial departure from the detailed requirements of specifications.

#### 1.4 REFERENCES

- A. Labor, materials, and systems supplied under this contract will be in full compliance with the National Electrical Code, most current version in force at the time of this document.

#### 1.5 SYSTEM(S) DESCRIPTION(S)

- A. Audiovisual Equipment and Systems
  - 1. Provide complete turnkey installation of audiovisual equipment and control systems as defined in this section. Systems include projectors, monitors, plasma displays, video

control systems and interfaces, lighting control systems, audio systems, projection systems, teleconferencing systems, speakers, amplifiers, microphones, interfaces, switchers, assistive hearing systems, control panels, wireless touch screen controls, VCRs, DVDs, wiring, connectors, connections, interface, accessories, and miscellaneous equipment required to provide complete and operations systems.

2. System will be wired for industry standard operation and according to signal flow diagrams found on the drawings.

#### 1.6 SUBMITTALS

1. Submittals are to be in accordance with Division 1.
2. Submit complete manufacturer's technical specifications and instructions for each component or assembly. Clearly highlight information showing compliance with this and/or applicable specifications.
3. Submit complete shop drawings showing inventory of equipment (by system - by type) to be installed, parts and quantity for each room, including communications equipment and wiring rooms. Include configuration of complete installed systems.
4. Submit one line drawing for each room. Clearly show the signal flow and interconnection diagram for each system within each room. Submit signal flow diagrams and interconnection diagrams for systems that span more than one space and/or have inputs, controls or other interfaces to systems physically outside the specific room in question.
5. Submit each manufacturer's certification(s) of distributorship, training and equipment warranties. Provide written evidence of manufacturer's certification for the provision of warranty services as well as factory authorization for installation.
6. Submit test reports in triplicate; title reports and submit in three ring binders, or on floppy diskette with translation program.
7. Furnish four (4) copies of complete operating manuals and user guide for each system, complete with record drawings. Instructions must include part numbers and names, addresses, and telephone numbers of parts source. Final payment will not be made until operational manuals have been received. Include revised cabling schedules.

#### 1.7 QUALITY ASSURANCE/WARRANTY

- A. Installer must be experienced, having participated in five projects of similar system, size and scope within the past two years. Submit references including system(s) description(s), contacts and telephone numbers.
- B. Installers must be authorized, factory trained distributor/dealer/installer of the electronic components/systems to be installed.
- C. Vendor must be authorized to warranty services, components, and systems on behalf of the manufacturer.
- D. Parts, components, and materials will be guaranteed against defects, faulty workmanship, and/or failure for one full year following system(s) acceptance.
- E. Provide a one (1) year warranty of the installed system against defects in material and workmanship. Labor and materials will be provided at no expense to the Owner during normal working hours. The warranty period will begin on the date of system acceptance by the Owner or Engineer.

- F. Make available a service contract offering continuing factory authorized service for 2 years, for this system after the initial warranty period. Provide written service agreement proposal six months prior to completion of warranty period.
- G. Maintain a fully equipped service organization capable of providing full maintenance and service of the installed system(s) within 24 hours. This facility will be available for inspection by the engineer.
- H. Maintain the necessary spare parts in the proper proportion as recommended by the manufacturer to maintain and service the equipment being installed.

#### 1.8 PROJECT/SITE CONDITIONS

- A. Meet with project manager, and other designated parties for a coordination meeting prior to commencement of work.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Schedule, arrange, and coordinate with involved parties/trades for shipment (as applicable), arrivals, loading dock, elevators, acceptance, storage, and security of equipment and materials. Assure that these activities do not interfere with other trades or the progress of this project.
- B. Assure that deliveries are affected in the quantities, within the times, and in accordance with each manufacturer's shipping instructions.
- C. Protect materials according to manufacturer's specifications.

### PART 2 - PRODUCTS

#### 2.1 GENERAL

- A. It is the intent of the specification that one manufacturer, where practical, not a combination be selected for each particular system and/or classification of material.
- B. Where materials, equipment, apparatus, or other products are specified by manufacturer, brand name, type, or catalogue number, such designation is intended to establish standards of performance, quality, type, and style, unless such designation is identified as proprietary.

#### 2.2 MATERIALS

- A. Materials and equipment will be new and unused including those parts/components that might be replaced during the warranty period.
- B. Wire/cable will be as specified.
- C. Equipment will be as identified in the associated drawings.
- D. Provide the following miscellaneous items necessary to make a complete, functional, and satisfactory installation, including but not limited to patch cables, wire, A/B switches, connectors, terminals, adaptors, plugs, jacks, splitters, taps, mounting brackets, transformers, hardware fasteners, bezels, blank rack panels, escutcheons, grille material, strain reliefs, bushings, adhesives, paints, gaskets, sealants, electrical tapes, fish paper, and other insulation, rosin-core soldered connections, cable ties, shrinkable insulation, corrugated flexible tubing, engraved instructional plates, labeling.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Commencement of work of this scope indicates acceptance of existing conditions.

#### 3.2 INSTALLATION

A. General

1. The working drawings designate wiring locations, racks, related spaces, and system(s)/equipment location/requirements. No penetrations are permitted into stairs except for emergency services.
2. System wiring will be in accordance with standard engineering and good workmanship practices as established by the NEC and standard electronics installation trade practices. Wiring must satisfy established national, state and local electrical codes. Wiring will test free from grounds and shorts. Each system(s) will be installed in strict accordance with manufacturer's recommendations.
3. In cable installation, do not exceed manufacturer's recommended pulling tensions. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between indicated termination, tap, or junction points. Remove and discard cable when damaged during installation and replace it with new cable.
4. Install riser cables in tray, pipe and/or sleeves where provided.
5. Drawings show conduit stubs from wall boxes to nearest accessible ceiling, in addition to conduit runs from box to box. Sleeves and conduits that extend from one room into another or into a hall way or common space are to be sealed with fire barrier compound. Perform this work prior to site inspections for occupancy permits. Coordinate this schedule with the general contractor to ensure that there are no delays or complications in the inspection schedule.
6. Protect cable penetrating a steel stud or steel wall cap with a "stud liner."
7. Protect cables entering cable management systems. Information related to these protection devices (additional alternate materials), must be identified in submittals and treated as specified within this document.
8. Support riser cables along routes every five feet with J-hooks, when not in conduit or tray.
9. In wiring within enclosures, bundle, lace and trim the conductors to terminal points with no excess. Provide and use lacing bars and distribution spools.
10. Secure wall-mounted racks to walls and/or blocking with fully secured hardware. Use grade-rated hardware for speakers, transformers, and other heavy devices.
11. It is a requirement to obtain from the manufacturer(s) the proper method(s) of installation, physical electrical connections, signal interfacing, mounting, and powering.
12. Coordinate ceiling and floor mounted devices with other trades. Provide hardware, accessories and miscellaneous parts and labor required to provide complete and functional installation.
13. The progress of the work will be performed such that rough in, fit-out, programming, and finish work will be coordinated with other trades, in order to eliminate delays or rework.
14. Patch holes related to the scope of work provided in this specification. The patching is to restore the area in question to pre-existing conditions, and to proper compliance with code(s) and the structural and aesthetic levels required.

## B. CONTROL SYSTEM PROGRAMMING

1. The control system touch panel programming shall include:
  - a. For the large 100-seat and 240-seat lecture halls control programming shall include:
    - 1) Separate audio controls page for individual microphone input level adjustment,
    - 2) Global master microphone level on main page,
    - 3) Global program audio level on main page,
    - 4) Projectors and LCD displays will be capable of displaying the same or independent sources,
    - 5) Input selection, VGA, HDMI, Composite Video, Document Camera, Blu-Ray, Podium Computer, AirMedia wireless,
    - 6) When a source is selected, the projector will turn on and the projection screen will automatically lower,
    - 7) System off: turn off the projector and raise the screen. When the projector is turning on or off, a source cannot be selected,
    - 8) Power outage recovery. The system shall recover itself from a power outage without requiring user intervention.
    - 9) Gradient volume control, Volume control should be one full turn from 0 to 100%. The default volume will be 75%.
    - 10) After 100 minutes of inactivity, the system shall shut off.
  - b. For the classrooms, control programming shall include:
    - 1) Input selection, VGA, HDMI, Composite Video, Document Camera, Blu-Ray, Podium Computer, AirMedia wireless,
    - 2) Projectors and LCD displays will be capable of displaying the same or independent sources,
    - 3) When a source is selected, the projector will turn on and the projection screen will automatically lower,
    - 4) System off: turn off the projector and raise the screen. When the projector is turning on or off, a source cannot be selected,
    - 5) Power outage recovery. The system shall recover itself from a power outage without requiring user intervention,
    - 6) Gradient volume control, Volume control should be one full turn from 0 to 100%. The default volume will be 75%,
    - 7) After 100 minutes of inactivity, the system shall shut off.
2. Control system touch panel programming templates, icons, and pushbuttons to be subject to review and acceptance by owner (URI Media Services) prior to finalizing system installation.
3. Disable Telnet on control system devices.
4. Firmware must be updated to the latest version at the start of the installation and again before acceptance by the University.
5. Provide passwords and copies of programming software files for devices (Control System, DSP, etc.) to owner (URI Media Services).

6. The audiovisual system contractor will meet with the owner to review and confirm the final control system layouts, including button and touch pad assignments, including control of related A/V devices and low-voltage motorized screen control. The A/V system contractor will configure and deliver control systems that operate to the satisfaction of the owner.

#### C. CRESTRON FUSION CONTROL PROGRAMMING

1. The Contractor shall program the classroom equipment so that it communicates with the URI Crestron Fusion application server. The programming shall include but not be limited to full E-Controls, system on/off, control panel displays, lamp hours, and input usage. The Fusion programming must use the existing URI Fusion data table and terminology.
  - a. The XPanels must be:
    - 1) Microsoft Windows ActiveX compatible
    - 2) Synchronized with the room controller.
    - 3) Able to display real-time projector status and lamp hours.
    - 4) Able to display the sync status of any source signal, selected or not, to the Crestron Matrix
    - 5) Password-protected with a password supplied by the University.
    - 6) Programmed so that every page of the XPanel will shows the room name.
  - b. In addition, the contractor shall:
    - 1) Disable Telnet on Crestron Equipment
    - 2) Apply a console password, as specified by the University, for Crestron equipment
    - 3) AV equipment, except the Projector and Air Media, will be connected the Crestron private network mode. The Projector and Air Media will be connected to the URI AV subnet.
    - 4) Provide URI Project Manager with a USB drive copy of compiled and uncompiled Crestron program and XPanel, including auxiliary files.

#### 3.3 ROUTING

- A. Route cables, in large groups, down the main cable pathways, until a direct path to the device can be taken. At that point, route the cables, above building systems, to the device location in accordance with standard installation practices, as described herein.
- B. When not in conduit or tray, support cables to the deck and/or beams, every five feet throughout the length of their installed run. Use J-hooks to group the cables and keep them away from electric wires, fixtures and the other systems installed in the building. J-hooks are to be provided and installed. Ensure that hangers, ties, and other methods of securing cable do not compress cable or damage insulation. Cables will not rest on acoustic drop ceiling tiles or grid. Cables will not be fastened to sprinkler pipe, or fastened to conduit not associated with the A/V system.
- C. Attach to beams with minimal disruption of the fireproofing. Restore the fire proofing to appropriate levels.
- D. Make cable routes with 90 degree angles whenever possible; do not install cables randomly or diagonally across rooms or through the building(s).

- E. Perform wiring within millwork in a quality workmanship-like manner using standard electronics installation trade practices. Low-voltage wires and cables will be gathered, bundled, and cable tied to create a neat, orderly installation. Cables may be individually bundled by system type if applicable. Cable assemblies will be securely fastened to the cabinetry using black nylon cable clamps fastened down with screws, or black nylon cable ties with integral mounting eye, and screws. Adhesive-backed clips, saddles, or adhesive cable-tie mounting bases are not acceptable for use. Panels, terminal strips, and wiring will be labeled with machine-printed thermal-transfer labels.

#### 3.4 CLEANING

- A. Prior to presentation for acceptance by client, clean equipment and work areas of this scope. This work will include wiping of work areas, removal of streaks, stains, etc., and assurance that systems and component as represented are new and undamaged.

#### 3.5 LABELING/IDENTIFICATION

- A. Equipment cables and termination points will be clearly and permanently marked in accordance with standard audiovisual nomenclature and as presented in the working drawings.
- B. Labels are to be typed or printed by Kroy (or equivalent) labeling system, dot matrix or laser printer using adhesive labels or other permanent marking strips. Hand printed labels are unacceptable.

#### 3.6 QUALITY CONTROL TESTING

- A. Provide system quality testing plan for owner review (URI Media Services) prior to contractor testing of system. Revise testing plan as prescribed by owner.
- B. Schedule testing session with owner (URI Media Services).

#### 3.7 DEMONSTRATION/ORIENTATION

- A. Provide three hours of demonstration and orientation by senior technician of the contractor, or other qualified approved personnel, for each of the installed systems. Demonstrate and explain:
  - 1. The physical configuration and interrelationship of the components of each system.
  - 2. Labeling and interconnection techniques used in each installation.
  - 3. Applications or unique connections or interfaces currently in use on this site.
  - 4. A review of warranty documents for each system.
- B. Coordinate with the designated representative of the owner, and complete training during week prior to occupancy, or as scheduled with the owner.

#### 3.8 TRAINING

- A. Provide four hours of training, operating manuals user guides, and record documentation for each system. Training for systems will be provided at the project site and coordinated with the Owner.
- B. Training must include instruction and user manuals for each system(s) operation.
- C. Training must utilize the equipment provided at the project site.

- D. Demonstrate adjustment, operation and maintenance of each system and each component.

### 3.9 SYSTEM START UP AND COMMISSIONING

#### A. System(s) Acceptance:

1. Obtain written acceptance from the owner or the owner's representative at the completion of system(s) installation, testing, documentation and training. Failure of the contractor to obtain sign off will result in the contractor remaining responsible for extending, at no charge to the owner, conditions of the warranty and guarantees until such time that sign off had occurred. Time included in the above condition will be included in the standard warranties.
2. Provide technician coverage during installation of related systems and hardware. Assist in required installation, testing and certification. Coverage requirements will be determined and scheduled by the owner, or owner's representative, in conjunction with provider of related hardware.

END OF SECTION