

COUNTY OF ALBANY

REQUEST FOR PROPOSALS

GENERAL SERVICES/ASM GLOBAL MVP ARENA



RFP#2022-149

DIGITAL ANTENNA SYSTEM (DAS) FOR MVP ARENA

**ALBANY COUNTY DEPARTMENT OF GENERAL SERVICES
PURCHASING DIVISION
PAMELA O NEILL, PURCHASING AGENT
112 STATE STREET, ROOM 1000
ALBANY, NY 12207**

COUNTY OF ALBANY
DEPARTMENT OF GENERAL SERVICES PURCHASING DIVISION
112 STATE STREET, ROOM 1000, ALBANY, NY 12207
TELEPHONE: 518-447-7140/ FAX: 518-447-5588

TITLE: Digital Antenna System (DAS) for MVP Arena
RFP NUMBER: 2022-149

Receipt Confirmation Form

Please complete and return this confirmation form as soon as possible:

Pamela O Neill
Purchasing Agent
County of Albany
112 State Street, Room 1000
Albany, NY 12207

**IF YOU PLAN TO SUBMIT A PROPOSAL, YOU MUST RETURN
THIS FORM TO ENSURE THAT YOU WILL RECEIVE ALL
FURTHER COMMUNICATION REGARDING THIS RFP.**

Company Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact Person: _____

Title: _____

Phone Number: _____ Fax Number: _____ E-Mail: _____

If a Bidders/Proposers meeting has been arranged for this Bid/RFP, please indicate if you plan to attend:
☐ Yes / ☐ No

I authorize the County of Albany to send further correspondence that the County deems to be of an urgent nature by the following method (check):

Fax Number: _____ E-Mail: _____

COUNTY OF ALBANY
DEPARTMENT OF GENERAL SERVICES
PURCHASING DIVISION
112 STATE STREET, ROOM 1000
ALBANY, NY 12207

NON-PROPOSER RESPONSE

RFP #2022-149

Digital Antenna System (DAS) for MVP Arena

The Albany County Department of General Services, Purchasing Division, is interested in the reasons why bidders/proposers fail to submit bids/proposals. Please indicate your reason(s) by checking all appropriate item(s) below and returning this form to the above address.

- ☐ Could not meet Scope of Services.
- ☐ Items or materials requested not manufactured by us or not available to our company.
- ☐ Insurance requirements too restricting.
- ☐ Bond requirements too restricting.
- ☐ Scope of Services not clearly understood or applicable (too vague, too rigid, etc.).
- ☐ Project not suited to firm.
- ☐ Quantities too small.
- ☐ Insufficient time allowed for preparation of bid/proposal.
- ☐ Other reasons; please state and define: _____

Vendor Name: _____

Contact Person: _____

Vendor Address: _____

Vendor Telephone: _____

NOTICE TO PROPOSERS -- ALBANY COUNTY
REQUEST FOR PROPOSALS #2022-149

Sealed Proposals for **Digital Antenna System (DAS) for MVP Arena** as requested by Albany County Department of General Services/ASM Global will be received by the Albany County Purchasing Agent, Room 1000, 112 State Street, Albany, New York 12207 until 4:30 PM, local time on Friday, January 13, 2023

Request for Proposal (RFP) documents may be obtained at the office of the Albany County Purchasing Agent, as noted above. RFP documents may be available for download from the Empire State Bid System website at <http://www.empirestatebidsystem.com>, **starting** by close of business (4:30 p.m.) on December 22, 2022

A pre-proposal conference will be held on Thursday , December 29, 2022 at 10:00am at the MVP Arena 51, South Pearl Street, Albany NY, This is the only scheduled conference. Interested proposers are strongly urged to attend.

Pamela O Neill
Purchasing Agent

Dated: December 15, 2022
Albany, New York

PUBLISH ONE DAY -- December 22, 2022 -- THE EVANGELIST
PUBLISH ONE DAY -- December 22, 2022 -- THE TIMES UNION

COUNTY OF ALBANY
REQUEST FOR PROPOSALS
DIGITAL ANTENNA SYSTEM (DAS) FOR MVP ARENA IN ALBANY NY
GENERAL SERVICES/ASM GLOBAL
RFP#2022-149

RFP DISTRIBUTION- IMPORTANT NOTICE

The County of Albany officially distributes RFP documents through the Purchasing Division Office or through the Empire State Bid System website at <http://www.empirestatebidsystem.com>. Copies of RFP documents obtained from any other source are not considered official documents. Only those vendors who obtain proposal documents from either the Purchasing Division Office or the Empire State Bid System are guaranteed to receive addendum information, if such information is issued.

If you have obtained this document from a source other than the Albany County Purchasing Division or the Empire State Bid System, it is strongly recommended that you obtain an official copy.

SECTION 1: PURPOSE

- 1.1 The County of Albany is seeking proposals for **Digital Antenna System (DAS)** for **MVP Arena in Albany NY** as requested by **General Services/ASM Global**
- 1.2 The County is seeking sealed proposals from contractors/service provider to provide a complete and fully functioning and supported neutral host distributed antenna system (DAS) to be installed at the MVP Arena located at 51 South Pearl Street Albany NY.

1.3 **A PRE-PROPOSAL CONFERENCE WILL BE HELD ON Thursday December 29, 2022 at 10:00am at the MVP Arena, 51 South Pearl Street Albany NY, gathering at the Box Office Lobby located on the southeast corner of the building. This will be the only scheduled conference. Proposers interested in submitting Proposals are strongly urged to attend.**

SECTION 2: RECEIPT OF PROPOSALS

- 2.1 Five (5) copies, and (1) electronic copy on CD or flash drive, of the Proposal and other required documents must be submitted, sealed in an opaque envelope clearly marked with the name and number of the Proposal and the name and address of the Proposer. Proposals must be received no later than **4:30 P.M. on Friday January 13, 2023**, at the following address:

Pamela O Neill
Albany County Purchasing Agent
112 State Street, **Room 1000**
Albany, New York 12207

- 2.2 The Proposal submitted by the individual Proposer(s) is the document upon which Albany County will make its initial judgment regarding the Proposer's qualifications, understanding of the County's scope and objectives, methodology, and ability to complete services under the contract.
- 2.3 Those submitting Proposals do so entirely at their expense. There is no express or implied obligation by Albany County to reimburse any firm or individual for any costs incurred in preparing or submitting Proposals, preparing or submitting additional information requested by the County, or for participating in any selection interviews.
- 2.4 Submission of any Proposal indicates acceptance of the conditions contained in the RFP, unless clearly and specifically noted otherwise in the Proposal.
- 2.5 Albany County reserves the right to reject any and all Proposals, in whole or in part, submitted in response to its RFP.
- 2.6 Albany County reserves the right to waive any and all informalities and to disregard all non-conforming, non-responsive or conditional Proposals.
- 2.7 Albany County may, at any time by written notification to all Proposers, change any portion of the RFP described and detailed herein.
- 2.8 Proposals will be examined and evaluated by **Albany County Department of General Services and/or ASM Global**
- 2.9 During the evaluation of Proposals, the County may require clarification of information or may invite Proposers to an oral presentation to amplify and or validate Proposal contents.

SECTION 3: QUALIFICATION OF PROPOSER

Provide a statement of Proposer qualifications including:

- 3.1 Provide the name, a brief history and description of your firm.
- 3.2 Identify your firm's professional staff members who will be involved in the County engagement and the experience each possesses and the location of the office from which each work.
- 3.3 Name and title of person(s) authorized to bind the Proposer, together with the main office address, and telephone number (including area code).
- 3.4 Detail your firm's experience with **neutral host DAS systems**.
- 3.5 Provide at least five (5) references from similar projects including name, addresses and telephone numbers.

- 3.6 Provide any additional information that would distinguish your firm in its service to Albany County.
- 3.7 Proposer shall include a completed "Vendor Responsibility Questionnaire" (Attachment "C") with the Proposal.
- 3.8 In addition, Albany County may make such investigations it deems necessary to determine the ability of the Proposer to perform the work. The Proposer shall furnish to the County, within five (5) days of a request, all such information and data for this purpose as may be requested. The County reserves the right to reject any Proposal if the information submitted by, or investigation of, such Proposer fails to satisfy the County that such Proposer is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional Proposals will not be accepted.

SECTION 4: SCOPE OF SERVICES

PART 1 – GENERAL –

1.1 RELATED DOCUMENTS

- A. Drawings found in Exhibit A – MVP Arena floor plans (3 levels)

1.2 SUMMARY

- A. The Owner is seeking a Contractor/Service Provider to provide a complete and fully functioning and supported neutral host distributed antenna system (DAS) including equipment, installation, support, and maintenance. The Contractor shall provide revenue opportunities as part of the Vendor's proposal response. The Contractor shall be responsible for providing a neutral host DAS that will support all major and local Cellular Carrier signals. The Proposer shall be solely responsible for negotiating and coordinating all legal agreements, technical requirements, utility costs, and financial/revenue obligations of each Cellular Carriers. There shall be no cost incurred to the County.
- B. The Contractor shall be fully responsible for supporting and maintaining DAS.
- C. The proposer is responsible and shall include but not limited to the following information in the proposal response.
1. Cellular Carrier Agreements, Coordination, and Requirements
 2. Any and all costs for the labor and materials/equipment for the DAS shall be the responsibility of the awarded proposer. All awarded contractors and their sub-contractors shall comply with the County's insurance.
 3. Contractor and sub-contracts shall comply with the Prevailing Wage Rates of NYS.
 4. Engagement Fee and Shared Revenue Opportunities

*A minimum non-refundable upfront engagement fee in an amount not less than \$225,000 shall be included in the proposal.

*A minimum of \$50,000 per signed carrier shall be included in the proposal.

5. Cellular Carrier Agreements and Utility Service Agreements
 6. System Maintenance and Support Options
 7. User Support Options – Events, Regular Venue Operations, and Afterhours
 8. Public Safety/Emergency Responder Coordination and Requirements
 9. DAS Equipment Room
 10. DAS Head-End, Infrastructure, Equipment, Remote Units, Antennas
 11. DAS Support Systems – Mechanical, Electrical, Plumbing, and Fire Suppression
 12. A fully operational DAS system must be installed within the arena within a period of 24 months after the effective date of the fully signed agreement. At the end of the 24 month period if the awarded vendor is not able to fulfill the obligation the County/ASM shall keep the upfront engagement fee.
- D. The DAS shall meet the all coverage and capacity requirements for an arena based on the highest occupancy allowed by code. The coverage shall be ubiquitous throughout venue in public and non-public area. Coverage shall fully cover multiple event types that may occupy the building such as trade shows, concerts, conventions and large meetings.
 - E. Contractor shall provide all detailed coordination of antenna placement for approval by Owner and Manager. Work shall include all necessary concealment, facades, and painting to hide equipment including antennas, cables, raceway, remote units, and any other exposed equipment.
 - F. The term “provide” used throughout this specification and drawings shall mean “furnish, install, test, certify, support, and maintain”.
 - G. Coordinate project schedule, installation schedule, phasing and any other requirements deemed necessary with Construction Manager and all necessary Trades to ensure successful completion of work.
 - H. Phasing, temporary distribution/equipment, cut-over and implementation shall be coordinated with Owner and Manager.
 - I. This specification is not intended to contain proprietary information or requirements based on any specific manufacturer or system. Any proprietary information included in this specification is unintentional.
 - J. This specification is intended to establish the minimum performance criteria requirements for providing a neutral host distributed antenna system (DAS). The contractor shall coordinate all system and performance requirements and criteria with all DAS users to ensure signal strength, coverage, capacity, and other requirements are all maintained. This includes coordination with Cellular Carriers.
 - K. This specification outlines general wireless requirements for implementing a neutral host DAS used for supporting applications such as cellular telephones and two-way public safety (police/fire/EMS radios).
 - L. The Contractor will coordinate all Public Safety frequencies, preferred manufacturer make/model, antennas, equipment, power conditions and locations with person who will manage the install.
 - M. The DAS shall include an in-building system. The Contractor shall get written confirmation regarding verifiable DAS performance and cellular

strength and capacity requirements from all Carriers for exterior DAS coverage and associate adjustment of macro cells.

- N. Design, furnish, install, and configure a turnkey DAS, wireless carrier interfaces, two-way radio head-end equipment, and system management and monitoring software. Work shall include all necessary fiber optic backbone, distributed antenna system components and installation thereof required including raceway, cable, cable terminals, transceivers/media converters, amplifiers, equipment, fireproofing, fire suppression, etc. for a fully operational and functional DAS.
- O. The distributed antenna system (DAS) scope of work shall be for a complete and fully functioning DAS system including but not limited to wireless surveys, technical design, installation, cellular carrier coordination, and full support and maintenance of system. These elements of this scope shall include all necessary components and infrastructure such as DAS head-end, fiber optic backbone, remote units, antennas, antenna cables, horizontal raceway, and miscellaneous power distribution.
- P. The system shall fully support multi-cast and unicast communications for application including but not limited to audio streaming, video streaming, IPTV, and multi-point video, etc. All necessary licensing and patent agreements shall be included to utilize this technology as part of this work.
- Q. The complete fit-out of the DAS equipment shall be provided by Contractor including all necessary HVAC systems, power distribution, electrical meters, UPS, fire suppression system to cover the entirety of the DAS and main communications room, equipment racks/cabinets, cable trays, raceways, etc. Any additional infrastructure and/or space required are the responsibility of the Contractor and shall coordinate these with the Owner for approval. The Contractor shall review and inspect current Construction Documents to determine where this raceway infrastructure exists and what additional infrastructure will be required for their installation. In some cases, backbone and antenna cables may be routed in shared riser conduits and/or cable trays but Contractor must verify Building Codes and Industry Standards for fill capacity requirements. Contractor shall be responsible for field coordinating use of any shared raceway with other trades.
- R. The DAS shall include a real time management and monitoring software control system. This control system shall be set up and fully configured and monitored offsite in real-time 24-hours per day.
- S. The contractor shall provide all necessary power to DAS room from Electrical Distribution Board including transformer, panel boards, UPS, receptacles/outlets, and equipment connections, etc.
- T. The Contractor shall provide meters all electrical power distribution to DAS equipment room including DAS head-end, Cellular Carrier base station equipment, air conditioning, lighting, and other support systems. Contractor shall pay the monthly utility costs to Owner.

- U. The DAS solution shall include options for technology that seamlessly offloads a user's cellular service to Wi-Fi. The Contractor shall present options for supporting this technology and information on maintaining quality of service. Additionally, Contractor shall provide options for amount of traffic that can be offloaded and associated requirements for ensuring performance and uptime of Wi-Fi system.
- V. This work shall include onsite wireless/RF surveys, virtual antenna placement, and physical design of DAS, submittals, equipment, and installation.
- W. An onsite wireless/RF survey shall be provided to establish existing signal strengths and potential interfering sources. This study shall be completed on all levels and areas and as necessary to finalize locations of antennas as well as validate signal strength and coverage after installation and during commissioning. The Contractor shall coordinate project construction schedule with the Construction Manager to establish milestone dates for substantial completion, that affect occupancy certificates, system completion, commissioning, and turn-over.
- X. The DAS design shall be developed and optimized using wireless software such as iBwave for establishing antenna locations based on electronic architectural drawings and various wireless frequency bands. Construction materials shall be inputted into the software program for structure, walls, floors, and ceilings. This software shall be used to predict antenna locations. Exact locations will need to be field verified using onsite wireless surveys as well as coordinating locations with Owner and Manager for approval.
- Y. The DAS wireless coverage and signal strength shall be field-tested and verified, certified, and guaranteed upon installation against design requirements.
- Z. The DAS shall support major national and local Cellular Carriers including AT&T, Sprint, T-Mobile/MetroPCS, and Verizon Wireless and any new formats the Carriers implement over time such as; 850Mhz LTE 2xMIMO and LTE850-MIMO and PCS LTE 2xMIMO dual streams.
- AA. Contractor shall provide all necessary coordination, requirements and contracts/lease agreements with Cellular Carriers. These shall include but not be limited to equipment room and all DAS technical requirements necessary to interface with base stations, transport the signal, and transmit the signal throughout building and exterior.
- BB. The Cellular Carriers shall be contacted only through the Contract in conjunction with Owner and/or their assigned representative.
- CC. The Contractor shall coordinate support systems requirements directly required by the DAS and Cellular Carrier equipment such as architectural, HVAC, electrical, and technology systems.
- DD. The Contractor shall provide, furnish, and install the required vertical and horizontal raceways and cabling required for the DAS.

- EE. Placement of all equipment including antennas, cable, and electronics shall be coordinated with Owner, Manager, and other Construction Trades to ensure neat and functioning installation.
 - FF. All antenna locations and cable routing shall be coordinated by the Contractor with the Building Manager prior to installation to maintain the highest level aesthetics sought on this project. The Contractor shall position antennas discreetly.
 - GG. The installation of the distributed antenna system shall comply with all local building codes, and applicable rules and regulations of the authority having jurisdiction (AHJ), FCC, BICSI, EIA, IEEE, NEC, TIA, UL, and other industry standards, codes, and methods.
 - HH. Provide a dedicated fiber optic backbone to support the DAS from the DAS Head-end to remote units and/or intermediate communications room. The Contractor is not permitted to use the building backbone to support telecommunications and IT systems.
- 1.3 Extent of DAS work should be indicated on drawings and schedules and is hereby defined to include, but not by way of limitation, the provisions of:
- A. Raceway systems including but not limited to conduits, cable trays, sleeves, surface raceways, pull-boxes, junction boxes, back-boxes, etc., as required. The Contractor shall coordinate this with the Construction Manager and Sub-Contractor performing work and determine how the scope of work is assigned. The purpose of this specification is to establish design intent and general system scope.
 - B. All infrastructure shall be provided as part of this work including but not limited to raceway, cable, cable terminals, room fit-out, etc. unless noted otherwise in this specification and drawings.
 - C. Horizontal cables between the Intermediate Communications (IC) Rooms and the antennas.
 - D. Dedicated fiber optic backbone cable between remote units and intermediate communications room and the DAS equipment room.
 - E. Cable terminations and terminals including but not limited to wiring panels/blocks, patch panels, fiber optic terminals and panels, and outlets/jacks.
 - F. Patch cords, jumper cables, and cross-connect cables to interconnect wiring terminals, antennas, and electronic equipment.
 - G. Connection from power supplies to electrical power receptacles located on walls, UPS, and/or vertical power strips. The Contractor shall be responsible for providing all necessary disconnects, transformers, and panel boards required to interface at distribution board located at electrical room serving DAS room.
 - H. Grounding and bonding of all metallic hardware components to the nearest telecommunications grounding bus (TGB) bar including but not limited to equipment chassis, metallic cable sheaths and shields, cable terminals, conduits, sleeves, etc. Grounding shall include insulated bonding conductors, lugs, and attachment hardware.

- I. All physical cable management hardware including, but not limited to: “J-hooks” in accessible ceiling areas, “D-rings” on backboards, horizontal managers in racks and cabinets within all communication rooms, etc.
- J. Fire stopping as required.
- K. Testing of system, components, and infrastructure as noted by specification, drawings, and applicable industry standards.
- L. Testing of all grounding systems as noted by specification, drawings, and applicable industry standards.
- M. Labeling of all system equipment, components, hardware, cable, and terminations with mechanically printed labels.
- N. Preparation and submission of product data, shop drawings, testing reports, as-built drawings, and cabling documentation as required in this specification.
- O. Construction and Installation warranties.
- P. Manufacturer components, channel and solutions warranties.
- Q. Installation and testing of all system and components.
- R. Onsite administrative and user training (as applicable).
- S. Manufacturer training of components (as applicable).
- T. Preparation of maintenance plan recommended by system Manufacturer.
- U. Spare parts for immediate onsite maintenance.

1.4 ACRONYMS AND ABBREVIATIONS

- A. Provided below is a general list of typical acronyms and abbreviations:
 - 1. 2G: Second Generation mobile telecommunications
 - 2. 3G: Third Generation mobile telecommunications
 - 3. 4G: Fourth Generation mobile telecommunications
 - 4. 5G: Fifth Generation mobile telecommunications
 - 5. AHJ: Authority Having Jurisdiction
 - 6. AMPS: Advanced Mobile Phone Service
 - 7. ARPU: Average Revenue Per User
 - 8. BICSI: Building Industry Consulting Services International
 - 9. BTS: Base Transceiver Station
 - 10. CDMA: Code Division Multiple Access
 - 11. DAS: Distributed Antenna System
 - 12. FCC: Federal Communications Commission
 - 13. GSM: Global System for Mobile Communications
 - 14. iDEN: Integrated Digital Enhanced Network
 - 15. IEEE: Institute of Electrical and Electronics Engineers
 - 16. LMR/SMR: Land Mobile Radio/Specialized Mobile Radio
 - 17. LTE: Long Term Evolution mobile broadband telecommunications
 - 18. MIMO: Multiple Input / Multiple Output
 - 19. NEC: National Electrical Code
 - 20. PCS: Personal Communications Service
 - 21. PoE: Power over Ethernet
 - 22. POI: Point of interface
 - 23. PSTN: Public Switched Telephone Network land based telecommunications providers

24. Telephone Company.
25. RF: Radio Frequency
26. SHF: Super High Frequency (3-30 GHz)
27. TDMA: Time Division Multiple Access
28. UHF: Ultra High Frequency (300-3000 MHz)
29. VHF: Very High Frequency (30-300 MHz)
30. WCDMA: Wideband Code Division Multiple Access
31. WiMAX: Worldwide Interoperability for Microwave Access
32. WLL: Wireless Local Loop

1.5 SUBMITTALS

- A. General Description and Requirements:
 1. Within 15 days after award of contract or as dictated by the construction schedule (whichever period of time is shorter), the Contractor shall submit prefabrication submittals consisting of product data and shop drawings for approval. Partial submittals will not be accepted without prior written approval from the Owner Representative. Coordinate all submittal dates with Building Manager.
 2. Review of the Prefabrication Submittals by the Owner and/or Building Manager is for purposes of tracking the work and contract administration and does not relieve the Contractor of responsibility for any deviation from the Contract Documents, or from providing equipment and/or services required by the Contract Documents which were omitted from the prefabrication submittals.
 3. No portion of the project shall commence nor shall any equipment be procured until the prefabrication submittals have been approved in writing by the Owner and/or Building Manager. All installations shall be in accordance with the Contract Documents.
 4. Prefabrication submittals shall be accompanied by a letter of transmittal identifying the name of the project, Contractor's name, date submitted for review, and a list of items transmitted.
- B. RFP Documents: Refer to RFP – DAS Information for requirements.
- C. Compliance Matrix: Provide a specification compliance matrix indicating compliance or deviation for each item in the specification. Refer to Section D later in this specification for requirements.
- D. Product Data: The DAS Product Data Submittal shall be submitted for review and approval by Owner and Manager prior to starting any work. Information shall include detailed manufacturer's specifications for each component to be installed. Submittal shall include a list of every component with Manufacturer's part numbers referenced, and, if available, Manufacturer data sheets with features, options, ratings, and performance. Product numbers and options to be used shall be highlighted with color marker.
 1. Component List: Provide complete submittal component list at the beginning of the submittal package. Component list shall identify

each component name, manufacturer, and specific product/part number. All part numbers shall clearly indicate special options, color, accessories, etc.

2. Cut-Sheets: Submit manufacturer's cut-sheets on all components listed within this specification and corresponding appendix. All components and parts being used shall be highlighted in color or clearly underlined on cut-sheets to distinguish specific product/part numbers, options, colors, accessories, etc.
 3. Product Substitutions: This specification is intended to be performance based, thus requirements and products noted are benchmarks. The Contractor may substitute manufacturers and models that may be more cost effective or readily available. All substitutions shall meet or exceed the minimum functional, physical, and technical specifications. Acceptance of such substitutions is at the discretion of the Owner and Manager.
 4. Schedule: A detailed completion schedule shall be submitted with the prefabrication submittals.
 5. Warranty Information: Provide all warranty information as described in this specification section for review and approval.
 6. Product Certificates: Signed by manufacturers of systems certifying that products furnished comply with requirements.
 7. Installer Certificates: Provide manufacturer certification signed by manufacturer certifying that installers have been trained to install all components of the system and comply with manufacturer's requirements.
- E. Equipment Coordination and Mock-Ups:
1. Contractor shall provide all detailed coordination of antenna placement for approval by Owner and/or Manager. Work shall include all necessary concealment, stealthing, facades, and painting to hide equipment including antennas, cables, raceway, remote units, and any other exposed equipment.
 2. Contractor shall provide full-scale mockups in arena for all typical equipment placement including remote units, antennas, backbone/antenna/power cable routing, conduits, etc. Mockups shall include all painting and stealthing to match condition to be installed.
 3. Contractor shall present mock-ups for approval to Owner and Manager prior to installation.
- F. Coordination Data: A detailed equipment and component schedule with supporting manufacturer cut-sheets shall be developed for all components and equipment for architectural, engineering, and construction coordination. These documents shall include electrical requirements (volts, phase, amps, power consumption, receptacle configuration, etc.), UPS requirements, heat dissipation, temperature operating range, target operating temperature, physical equipment sizes (LxWxH, rack units, racks, cabinets, panels, etc.).

- G. Shop Drawings: The DAS Shop Drawings shall be submitted for each "construction phase configuration" and "final configuration" prior to starting any work for review and approval by Owner and Manager. Additionally, Shop Drawings shall be used for coordination with Manager and Trades by this installer. Information shall include all drawings necessary to present installation intent including plans, enlarged plans, elevations, sections, details, and interface to other work or systems.
1. Legend Sheet: Provide drawings including descriptions of all abbreviations and symbols.
 2. One-Line Diagrams: Provide drawings that indicate backbone and horizontal cable infrastructure, antennas, and all equipment. Drawings shall include relevant information such as room numbers, panel numbers, cable and raceway requirements.
 3. Floor Plans: Provide scaled plan drawings based on architectural background indicating device and equipment locations including point of interface (POI) antennas, radiating cable antennas, backbone and horizontal cable distribution, panels, conduits, back-boxes, junction boxes, etc. Additionally, provide wiring diagrams for indicating cable origination and routing.
 4. Enlarged Plans: Provide enlarged scaled plan drawings for equipment layouts in communications rooms.
 5. Elevations: Provide scaled drawings for elevations of all equipment layouts in communications rooms, equipment racks, and panels.
 6. Details: Provide detail drawings as required to show components requiring greater detail. This should include various antenna types and mounting configurations.
 7. Labeling: Provide documentation of all labeling schemes for conduit, back-boxes, junction boxes, antennas, panels, cable, terminations, patch panels, cross-connects, patch panels, etc.
 8. Test Results: Provide all final RF test results in a table or matrix as well graphically on plan drawings. Test results shall indicate the signal strengths and interference levels (signal-to-noise, Eb/No, or equivalent).
- H. As-Built Drawings: The DAS As-Built Drawings shall be submitted to Owner after completing work. As-Built Drawings shall indicate final installation of system. Information shall include all drawings necessary to present final installation intent including plans, enlarged plans, elevations, sections, details, and interface to other work or systems.
1. Legend Sheet: Provide drawings including descriptions of all abbreviations and symbols.
 2. One-Line Diagrams: Provide drawings that indicate backbone and horizontal cable infrastructure, antennas, and all equipment. Drawings shall include relevant information such as room numbers, panel numbers, cable and raceway requirements.

3. Floor Plans: Provide scaled plan drawings based on architectural background indicating device and equipment locations including point of interface (POI) antennas, radiating cable antennas, backbone and horizontal cable distribution, panels, conduits, back-boxes, junction boxes, etc. Additionally, provide wiring diagrams indicating cable origination and routing.
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 8. Test Results: Provide all final RF test results in a table or matrix as well graphically on plan drawings. Test results shall indicate the signal strengths and interference levels (signal-to-noise, Db/No, or equivalent).
- I. Field Test Reports: Indicate and interpret test results for compliance with performance requirements of installed systems.
- J. Commissioning:
1. Check-List: Contractor shall create and submit a detailed checklist for commissioning system equipment and components. The list shall be submitted for Owner review. System commission shall include the following categories.
 - a. Procured Components Validation
 - b. Physical Installation and Location
 - c. Equipment Connectivity and Inter-Connectivity
 - d. Support Systems Functioning (HVAC, electrical, and UPS)
 - e. System Setup and Operation
 - f. Wireless Surveys
 - g. Testing
 2. Report: The Contractor shall complete commissioning of the system and issue a final report. Commissioning shall be performed upon completion of system, and after its testing and retuning. Report shall be completed and finalized by the Contractor prior to system acceptance by Owner. A formal report shall be generated that includes sign-off and notes of all checklist items.
- K. Maintenance Information: The Contractor shall provide Maintenance Manuals for the DAS equipment and components. Maintenance information shall include the following:
1. Detailed operating instructions under both normal and extraordinary conditions.

2. Routine maintenance requirements for system components.
 3. Lists of spare parts and replacement components recommended for storage at the site for ready access.
 - L. Warranties: The Contractor shall fully warranty and provide necessary maintenance on all parts, components, and labor for the entire duration of the DAS agreement with Owner. Warranty period shall start based on acceptance by Owner upon completion, testing and acceptance of the installation by the Wireless Carriers.
 - M. Documentation: All documents submitted by Contractor including product data, submittals, as-built, test results, drawings, reports, etc. shall be provided in electronic (pdf) and paper format.
- 1.6 QUALITY ASSURANCE
- A. Installer Qualifications: The installation supervisor for both installation and maintenance of units required for this Project must be an experienced installer who is an authorized representative of the DAS manufacturer.
 1. Contractors shall have at least five (5) years of successful installation experience with projects utilizing wireless systems including DAS.
 2. The Contractor shall have a fully staffed office with technical installations support personnel within 30 miles of the project.
 3. The company shall be a certified installer of the DAS manufacturer, and shall provide a 1 year warranty on installation/applications.
 4. The company shall be a certified installer of structured cabling systems, and shall provide a 25-year warranty on installation/applications.
 5. The Contractor shall have a professional engineer licensed to practice in jurisdiction where Project is located and who is experienced in providing engineering services of similar scope. The Contractor's design shall be reviewed, signed, stamped, and sealed by a NYS licensed designed professional.
 - B. Manufacturer and Product Qualifications
 1. Provided products shall come from manufacturers regularly engaged in the production of DAS and wireless systems.
 2. Provide products from manufacturers whose products of similar types, capacities, and characteristics have been in satisfactory use in similar projects for not less than five (5) years.
 - C. Products and Substitutions: Other manufacturers' products complying with requirements may be considered. All manufacturer solutions, products components and/or substitutions shall be submitted at bid time for review and acceptance by Owner. Cost changes including additions or deductions, shall be submitted for all items.
 - D. Alternates: All alternates requested or proposed by the Contractor shall be submitted at bid time for review and acceptance by Owner. Cost changes including additions or deductions shall be submitted for all items.

- E. Electrical Components, Devices, and Accessories: These shall be listed and labeled as defined in NFPA 70, NEC, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use. All materials shall be Underwriters Laboratories (UL) Listed unless otherwise noted or required by AHJ.

1.7 CODES AND STANDARDS

- A. All work including materials and installation shall conform to all applicable sections of currently adopted editions of the codes and standards listed below or the codes, standards and specifications published by the organizations listed below:
1. Uniform Building Code (UBC).
 2. State and local codes.
 3. ANSI: American National Standards Institute (ANSI).
 4. ANSI/EIA/TIA-526: Standard Test Procedures for Fiber Optic Systems.
 5. ANSI/EIA/TIA-568-C: Commercial Building Telecommunications Cabling Standard.
 6. ANSI/EIA/TIA-569-A: Commercial Building Standard for Telecommunications Pathways and Spaces.
 7. ANSI/EIA/TIA-606A: Administrative Standard for Commercial Telecommunications.
 8. ANSI/EIA/TIA-607: Commercial Building Grounding and Bonding Requirements for Telecommunications.
 9. ASTM: American Society for Testing and Materials
 10. BICSI TDM Telecommunications Distribution Methods Manual (current edition).
 11. BICSI Wireless Design Reference Manual (current).
 12. EIA/TIA TSB67: Transmission Performance Specifications for Field Testing of Unshielded Twisted-Pair Cabling.
 13. Federal Specification Compliance: Comply with applicable requirements of FS W-C 586, "Electrical Cast Metal Conduit Outlet Boxes, Bodies, and Entrance Caps."
 14. ICEA: Insulated Cable Engineers Association
 15. IEEE: Applicable requirements and recommended installation practices of IEEE Standards 80, 81, 141 and 142 pertaining to grounding and bonding of systems, circuits and equipment.
 16. IEEE-802.11 a, b, g, n: Wireless Local Area Networks
 17. IEEE-802.3: 10Mb/s, 100Mb/s, 1Gb/s, and 10Gb/s Ethernet Standards as applicable based on media types (twisted pair copper, fiber optics, etc.)
 18. IEEE-802.3ak: 10Gb/s Ethernet (evolving copper standard).
 19. IEEE-802.3af: Power-over-Ethernet (PoE).
 20. IEEE-1100-1999: Recommended Practice for Powering and Grounding Sensitive Electronic Equipment.
 21. IEEE-141: Comply with applicable requirements for installation of cable tray systems.

22. IEEE-241: Recommended Practice for Electric Power Systems in Commercial Buildings.
23. ISO/IEC 11801: International Standard on Information Technology – Generic Cabling of Customer Premises.
24. NEC: Applicable local electrical code requirements of the authority having jurisdiction, and the NEC as applicable to electrical boxes and fittings, cable tray systems, and grounding and bonding, pertaining to systems, circuits and equipment.
25. NESC: National Electrical Safety Code
26. NEMA: Applicable requirements of NEMA Stds/Pub No.'s OS1, OS2 and PUB 250 pertaining to raceways, outlet and device boxes, covers, and box supports.
27. NEMA: NEMA Stds/Pub No. VE 1 "Cable Tray Systems"
28. NFPA-70/NEC: National Electrical Code.
29. NFPA-70B: "Recommended Practice for Electrical Equipment Maintenance" pertaining to installation of cable tray systems.
30. UL Compliance.
31. UL Compliance: Applicable requirements of UL 50, UL 514-series, and UL 886 pertaining to electrical boxes and fittings.
32. UL Compliance: Applicable requirements of UL Standards No.'s 467, Electrical Grounding and Bonding Equipment", and 869 "Electrical Service Equipment", pertaining to grounding and bonding of systems, circuits and equipment. In addition, comply with UL Std 486A, "Wire Connectors and soldering Lugs for Use with Copper Conductors." Provide grounding and bonding products which are UL-listed and labeled for their intended usage.

- B. Where there is a conflict between the code and the contract documents, the code shall have precedence only when it is more stringent than the contract documents. Items that are allowed by the code but are less stringent than those specified on the contract shall not be substituted.

1.8 PROJECT CONDITIONS

- A. Prior to submitting a proposal, the Contractor shall inspect the Contract Documents, and shall become fully informed as to laws, ordinances, and regulations affecting the project. The Contractor shall immediately bring to the Owner and Manager's attention, in writing, any existing condition or statute that contradicts, is in conflict with, or negates the Contract Documents. Failure of the Contractor to become fully informed as to all above mentioned items shall in no way relieve the Contractor from any obligations with respect to its proposal.
- B. The Technology Drawings schematically depict locations of major equipment and components. Field conditions and coordination with related trades may warrant relocations of field devices. No additional compensation will be allowed due to these revisions.
- C. System components and equipment shall be rated for the environments where installed. Normal temperature range requirements for each area

within the project will be identified per the following categories noted below.

1. Exterior Areas: -20 to +140°F (-29 to +60°C)
2. Interior Areas-Seasonal: +32 to +104°F (0 to +40°C)
3. Interior Areas-Temp Controlled: Typ. 72°F (22.2°C) but range over +50 to +104°F (+10 to +40°C)
4. Riser Shafts: -20 to +140°F (-29 to +60°C)
5. Communication Rooms: Typ. 69°F (20.5°C) but range over +32 to +104°F (+0 to +60°C)

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Equipment and components shall be delivered in factory-fabricated containers or wrappings, which properly protect equipment from damage.
- B. Equipment and components shall be handled carefully to prevent damage including but not limited to breakage, denting or scoring of surfaces, etc. Do not install damaged units or components; replace with new. Replace damaged units or components following installation with new ones.
- C. Equipment and components shall be stored in original packaging in a dry, clean, well-ventilated space, and shall be protected from construction traffic, weather, moisture, soiling, humidity, and extreme temperatures.

1.10 SEQUENCING AND HANDLING

- A. All work shall be reviewed and coordinated with the Building Manager prior to commencing.
- B. DAS, infrastructure, and equipment are sensitive to environmental conditions including but not limited to temperature, dirt, dust, and water. The contractor shall ensure the storage and installation of all system components are sequenced and scheduled accordingly to prevent any damage, loss of performance, and warranty voiding. All mis-installed components shall be replaced with new parts and re-installed at the contractors' expense.
- C. Installation shall be coordinated with Structural, Electrical, HVAC, Plumbing, Fire Protection, and other trades to eliminate disruption and/or conflict with other systems.
- D. Installation of DAS and infrastructure shall be sequenced with other work to minimize possible damage and soiling during the remainder of construction.

1.11 COORDINATION

- A. The Contractor shall:
 1. Coordinate Work of this Section with the requirements of each wireless service provider.
 2. Coordinate layout and installation of DAS equipment, antennas, and radiating cable with other construction that penetrates ceilings or is supported by them, including but not limited to light fixtures, HVAC equipment, fire-suppression-system components, and partition assemblies.
 3. Coordinate location of cabling, antennas, and associated concealment with other trades.

4. Coordinate location of equipment in the communications rooms and spaces with the Owner and Manager.

1.12 SPARE COMPONENTS AND EQUIPMENT

- A. The Contractor shall maintain all appropriate spare components and equipment as necessary to ensure operation of the system. The Contractor shall outline their specific plan.

1.13 WARRANTY

- A. The Contractor shall be responsible for coordinating warranty requirements and/or issues with their preferred DAS Manufacturer and sub-contractors. The Contractor shall ensure that a warranty is in place for replacement of components to ensure uptime of system. Typical warranty requirements are listed below but it's the Contractor's sole responsibility to obtain warranties of their system.
- B. A one (1) year warranty on the Work shall be provided by the Contractor. If, within one (1) year after the date of final acceptance by Owner of the installation or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents or provided by a manufacturer, any of the work or equipment is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly including all parts and labor after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. This obligation shall survive termination of the contract. The Owner shall give such notice promptly after discovery of the condition. Such notice shall be provided by Owner representatives, to be identified, either verbally or in writing. Warranty period shall start based on acceptance by Owner upon completion, testing and acceptance of the installation by the Wireless Carriers.
- C. The manufacturer shall provide a warranty with a minimum term of 25 years for all structured cabling systems. This warranty shall cover all components including cable, terminations, patch panels, and wiring panels, etc. to maintain the specified performance and physical criteria. Any such components, link, or channel shall be replaced by the Manufacturer at no cost to Owner during this period. The Contractor and Manufacturer shall submit all information and documentation on Warranty.
- D. Nothing contained in the Contract Documents shall be construed to establish a shorter period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents or any manufacturer's warranty. The establishment of the time period of one (1) year after the date of final acceptance or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the work or equipment, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings

may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the work or equipment. Warranty period shall start based on acceptance by Owner upon completion, testing and acceptance of the installation by the Wireless Carriers.

- E. Warranty response shall be as listed in Section 1.13 Response Time.
- F. If system operation is not fully restored during the warranty period within 24-hours, the Owner reserves the right to require the Contractor to provide on-site manufacturer's service technicians at no additional cost.
- H. The Owner reserves the right to expand or add to the system during the warranty period using firm(s) other than the Contractor for such expansion without affecting the Contractor's responsibilities, provided that the expansion is done by a firm which is an authorized dealer or agent for the equipment of system being expanded.
- I. Special warranty specified in this Specification shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

1. Special Warranty for DAS and Components: There shall be a written warranty, signed by the manufacturer and Installer agreeing to correct system deficiencies and replace components that fail in materials or workmanship within a specified warranty period when installed and used according to manufacturer's written instructions.

This warranty shall be

in addition to, and not limiting, other rights Owner may have under other provisions of the Contract Documents.

- 2. Contractor shall guarantee coverage and fix any coverage gaps or incorrect signal strengths at no cost to the Owner. The Owner will not accept the system at turn-over until the system has been field tested, verified, certified, and guaranteed that coverage limits have been fulfilled.
- 3. Contractor shall guarantee the Wireless Carriers and Service Providers will connect to the DAS provided as part of this work.
- 4. Contractor shall guarantee the Two-Way Radio Systems supporting Building Operations, Security, and Public Safety will connect to the DAS as part of this work.

1.14 RESPONSE TIME (WARRANTY AND MAINTENANCE)

- A. Response time to failure of system, equipment, and/or component during warranty period and maintenance periods shall be within 4 hours of placed call.

1.15 PROPOSAL INFORMATION

- A. Instructions to Proposers

1. The following is a partial list of instructions. Proposers shall provide a complete proposal including all information requested in the Proposal.

B. Compliance

1. Bidders shall submit a Statement of Qualifications with their bid proposal that shall include the following information:
 - a. Company name, address, telephone number and contact person.
 - b. Brief company history.
 - 1) Years in business.
 - 2) Number of employees.
 - 3) Location of Headquarters and branch offices, including international locations.
 - c. Resumes of key personnel.
 - d. Local staffing description (job descriptions and numbers of persons in each position).
 - e. Local service capabilities (hours of operation and parts availability).
 - f. Technician factory certifications.
 - g. Description of local engineering and project management capabilities.

- h. Line sheet listing major suppliers of security equipment.
 - i. Annual dollar value of sales, installation and service of each product line carried.
 - j. List of all projects and references for all projects completed in the last five years, including a brief project description, location, construction cost, and completion date.
 - k. List of references describing five (5) completed projects of similar size and complexity, including names and telephone numbers of the contact persons.
 - l. List of references describing similar projects completed in the area and in the last year including names and telephone number of the customer's contact person.
 - m. List of similar projects currently under construction in the area including names and telephone numbers of the customer's contact person.
 - n. Licensing information.
- 2. Bidders shall provide a specification compliance matrix indicating compliance or deviation for each item in the specification within four months following the award of the contract. The matrix shall be comprised of a list of all numbered paragraphs that appear in this Specification. Compliance of the proposed equipment and/or services shall be indicated by the word "Comply" following each paragraph number. Exceptions to the requirement shall be indicated by the word "Exception" following the applicable paragraph number. Should the proposed equipment and/or services not entirely comply with the requirements specified, but ultimately achieve the intent, the Bidder shall explain fully the extent, or lack thereof, of compliance for the applicable equipment and/or services proposed. Instances where there is no indication of compliance or exception shall be considered non-compliant. This matrix is critical for proposal evaluation. Failure to submit the matrix may result in the disqualification of the bid. Contractor shall submit Compliance Matrix with the Bid Proposal AND at the time of Product Data submittal (as indicated previously in this specification) so that a complete submittal review can be performed.
- 3. Additionally, and as described in this Specification, bidders shall submit the following information with their proposal:
 - a. Manufacturer's literature

- b. Workload and capability statements. The statements shall detail projects that will be active during the completion of this project, and the manpower that would be available for this project.
 - c. Confidentiality and return statements. The statements shall guarantee that the Contract Documents shall not be copied or distributed physically or verbally. The Contractor shall also assure the Owner that the Contract Documents shall be returned in their entirety upon request. The successful Contractor will be provided with as many copies as requested.
 - 4. Certain paragraphs of the Specification require the Bidder to provide information (possibly not listed above) in the proposal to demonstrate compliance with a requirement. If the Bidder fails to provide detailed responses to these items, the proposal may be deemed to be non-compliant to the paragraphs stated.
 - 5. Bidders shall number all pages of the bid submittal.
- C. Specification Response
- 1. The proposal shall provide an overview and narrative description of the system architecture including but not limited to topology, application point of interfaces, backbone infrastructure, horizontal infrastructure, cables, terminals, amplifiers, repeaters, media converters, taps, splitters, and antennas.
 - 2. The Bid Documents shall include a comprehensive proposal which confirms that a complete RF analysis of the project site as well as a complete design, must be submitted within four months following the award of the contract. The design shall include antenna layouts and cable routing. This information will be used to verify compliance with the DAS Specification, the extent of the Bidder's proposed solution, and the DAS Scope of Work.
 - 3. The Bid Documents shall include a full explanation that expresses how the Bidder will design include Product Data Submittals and Shop Drawings per the requirements noted below. The Bid Response Documents shall include a complete and comprehensive discussion of the products, processes, techniques, and methods that will be used to accomplish the tasks and functional requirements.
 - 4. The Bid Response Documents shall include a confirmation that the Bidder will be solely responsible for costs related to installing and operating the systems including all costs of maintenance and repairs that might be required within the term of the contract.
 - 5. The Bid Response Documents shall include an implementation schedule and project timelines starting from Contract to System Turn-Over.
 - 6. The Bid Response Documents shall include an overall proposal that will confirm specifications will be met and within four months of the date on which the award of the contract is granted, specific drawings and information as noted above will be provided.

Bidder's DAS Design Assumptions
PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, products and solution shall be provided by one of the following DAS Manufacturers:
1. Andrew/Commscope
 2. Solid
 3. TE Connectivity
 4. Corning/Mobile Access
 5. Others based on Contractor's preference.

2.2 DISTRIBUTED ANTENNA SYSTEM

- A. General Requirements:
1. The DAS shall be a single broadband radio frequency (RF) infrastructure that supports a wide range of current and future wireless technologies, protocols, and services. It shall be able to supply wireless services to multiple applications concurrently.
 2. The system shall fully support multi-cast and unicast communications for application including but not limited to audio streaming, video streaming, IPTV, and multi-point video, etc. All necessary licensing and patent agreements shall be included to utilize this technology as part of this work.
 3. The DAS shall include an in-building and exterior system. The exact requirements for the exterior system require coordination with wireless carriers.
 4. The DAS shall be an in-building wireless system and exterior wireless system for supporting frequencies in the 450 to 2500 MHz

range and expandable to support emerging technologies up to 6000 MHz

5. The DAS shall support all frequencies currently used by national and local Cellular Carriers including the following current technologies:
 - a. AT&T: LTE-1900 (MIMO)
 - b. AT&T: LTE-700 (MIMO)
 - c. AT&T: LTE-2100 (MIMO)
 - d. AT&T: UMTS-850
 - e. AT&T: UMTS-1900
 - f. Verizon: CDMA-850
 - g. Verizon: EVDO-1900
 - h. Verizon: LTE-700 (MIMO)
 - i. Verizon: LTE-2100 (MIMO)
 - j. Sprint: CDMA-800
 - k. Sprint: CDMA-1900
 - l. Sprint: iDen-900
 - m. Sprint: LTE-1900
 - n. T-Mobile: GSM-1900
 - o. T-Mobile: LTE-2100
 - p. T-Mobile: UMTS-1900
 - q. T-Mobile: UMTS-2100
 - r. T-Mobile/MetroPCS: CDMA-1900
 6. The system shall provide a dominant signal within each individual antenna's specific coverage area to overcome any existing signal by at least 10 dB and provide a minimum signal strength of -85 dBm within 95% of covered building areas.
 7. Contractor shall ensure that ubiquitous coverage is provided throughout the facility on all levels.
 8. All DAS components shall be the latest components available on the market. All components shall be new and have been manufactured within 6-months of installation.
- B. Equipment, Infrastructure, and Components: The system shall include a fiber optic backbone, horizontal cable, antennas, power supplies, transceivers, media converters, head-ends, and all other necessary components required to distribute wireless services throughout the building.

The system shall utilize Point of Interface (POI) devices to interface with wireless telephone carrier networks, and two-way radio systems including but not limited to Ops, Security, and Public Safety.

- C. Signal cables and connected components shall be protected against transient-voltage surges by suppressors and absorbers designed specifically for the purpose in required areas.

2.3 ANTENNAS

- A. The Contractor shall propose antennas for each condition for approval by Owner and/or Building Manager

B. Typical system antenna types shall conform to the following requirements:

1. Broadband Log Periodic Antenna: Provides contiguous broadband directional RF signal power radiation.
 - a. Frequency Range: 420 to 2500 MHz
 - b. Mounting: Pre-affixed bracket for bolting to any fixed structure.
 - c. Radome must be rated to UL 94V0 Plenum standards for installation above ceiling in plenum rated lay in ceilings.
2. Low Profile Broadband Log Periodic Antenna: Provides contiguous broadband directional RF signal power radiation.
 - a. Frequency Range: 420 to 2500 MHz
 - b. Mounting: Pre-affixed bracket for bolting onto flat and non-metallic ceiling and wall structure. Must be able to mount above lay-in ceiling.
 - c. Radome must be rated to UL 94V0 Plenum standards for installation above ceiling in plenum rated lay in ceilings.
3. Broadband Omni Antenna: Provides contiguous broadband omni-directional RF signal power radiation.
 - a. Frequency Range: 420 to 2500 MHz
 - b. Mounting: Pre-affixed bracket for bolting to any fixed structure.
 - c. Radome must be rated UL 94V0 plenum standards for installation above plenum lay in ceilings.

2.4 DISTRIBUTED ANTENNA SYSTEM COMPONENTS

A. The system components shall meet the following requirements:

B. Point of Interface (POI):

1. Provide the neutral demark point-of-interface for RF services to be distributed over the DAS.
2. Provide multiple connections among the primary RF services frequency bands (e.g. 450 to 512 MHz, 746 to 960 MHz, 1700 to 2170 MHz, 2.4 GHz WiMAX) to accommodate proposed wireless carriers, public safety services, in-house building operations, and any other service identified in this specification.
3. Primary DAS head-end equipment shall include a data network interface for connecting to Management and Monitoring System. Interface shall be 10/100/1000 Mbps Ethernet (RJ45).

C. Remote Distribution Units:

1. Provide Remote Distribution Units or Expansion Units at Intermediate Communication Rooms and above ceilings as necessary to transition from single-mode fiber optic backbone to horizontal antenna cables (horizontal distribution).
2. Provide multiple connections among the primary RF services frequency bands (e.g. 450 to 512 MHz, 746 to 960 MHz, 1700 to 2170 MHz, 2.4 GHz WiMAX) to accommodate proposed wireless carriers, public safety services, in-house building operations, and any other service identified in this specification.

3. The remote units shall include a data network interface for connecting to Management and Monitoring System. Interface shall be 10/100/1000 Mbps Ethernet (RJ45).

2.5 SIGNAL TRANSMISSION COMPONENTS

- A. The signal transmission components shall be of the following types and meet the following requirements
- B. Cables:
 1. Types:
 - a. Single-Mode Fiber Optic
 - b. Cat. 6A UTP
 - c. RG59 75-ohm Coaxial
 - d. RG6 75-ohm Coaxial
 - e. ½" 50-ohm Coaxial
 - f. 7/8" 50-ohm Coaxial
 - g. 7/8" Radiation Coaxial (Radiax or Leaky Coax)
 2. Ratings: All cable shall be UL-Listed for use in plenums.
- C. Terminals and Connectors: Equivalent to cable type and performance capabilities. Contractor shall provide connectors and terminals approved to work and comply with Manufacturer's system.
- D. Cable Hangers: "Clic" Self-Locking Hangar or approved equal.
- E. Transmissions methods and components vary by manufacturer, so this information shall be submitted in detail at bid time for review and acceptances by Owner.

2.6 PUBLIC SAFETY SYSTEMS

- A. Law Enforcement:
 1. The DAS shall include all necessary head-end equipment to rebroadcast all Local Public Safety and any Federal Law Enforcement radio traffic. The Contractor shall coordinate Public Safety requirements including equipment and radio frequencies, etc. with each authority.
 2. System requirements shall meet Police Department's current wireless communication standards.
 3. Contractor shall provide equipment and components recommended by Manufacturer based on proposed solution.
- B. Fire Department and EMS:
 1. The DAS shall include all necessary head-end equipment to rebroadcast all Fire Department and EMS Two-Way Radio Communications System.
 2. The Contractor shall coordinate Public Safety requirements including equipment and radio frequencies, etc. with each authority.
 3. System requirements shall meet Fire Department and EMS's current wireless communication standards.
 4. Contractor shall provide equipment and components recommended by Manufacturer based on proposed solution.

2.7 BUILDING OPERATIONS SYSTEM

A. General:

1. The DAS shall include all necessary head-end equipment rebroadcast the Owner's Building Operations Two-Way Radio and messaging Communications System.
2. Coordinate requirements including radio frequencies with Owner's RF Strategy and Frequency Allocation Schedule.
3. Contractor shall provide equipment and components recommended by Manufacturer based on proposed solution.

2.8 GPS SYSTEM

A. General:

1. The DAS shall include (3) GPS receivers and antennas located on the roof for location (2 Arena)- based services.
2. Contractor shall provide GPS distribution panels at the DAS Room for the base station interfaces for each GPS receiver and antennas.
3. Contractor shall provide equipment and components recommended by Manufacturer based on proposed solution.

2.9 MANAGEMENT AND MONITORING SYSTEM

A. General:

1. The DAS shall be installed with Management and Monitoring System.
2. The DAS shall be remotely monitored by Contractor.
3. The Management and Monitoring System shall provide for interactive interfaces to all major DAS electronic components including base head-end, remote units, antenna points, and power supplies. The DAS components shall be interfaced to the facility's converged data network.
4. The Management and Monitoring System shall allow for real-time remote management and monitoring of the DAS.
5. The Management and Monitoring System shall have a customizable graphical user interface (GUI) for visual display and indication of system status. The GUI shall include the following minimum criteria:
 - a. Facility maps with interactive equipment icons of major system components and antenna locations.
 - b. Interactive equipment icons, color coded to indicate current status and clickable by mouse to show device information, status, log, configuration, etc.

B. System Features: The Management and Monitoring System software shall incorporate the following features:

1. Remote Equipment Configuration and Troubleshooting
2. Graphical User Interface (GUI)
 - a. Facility Maps with Interactive Icons (equipment and antennas)
 - b. Color coded icons for quick visual reference.

- c. Equipment Status (threshold, status, alarm; etc.)
 - 3. Alarm Notification
 - a. Equipment and Antenna Status
 - 4. Web Based Access
 - a. VPN credentials and User Login
 - b. Remote Diagnostics
 - 5. Logs
 - a. Status
 - b. Alarm and Events
 - c. History
 - d. Performance
 - e. Maintenance
 - f. Users
 - g. System Inventory
 - h. Configurations
 - 6. Maintenance Schedule, Alerts, Reminders, Notification, and Logs
 - 7. System Administration
 - a. Administrator Login, Passwords, and Security Access Level
 - b. Users Login, Passwords, and Security Access Level
- D. System Requirements
 - 1. Operating System: Windows 7 or Windows 8.
 - 2. Equipment Networking: Ethernet 10/100/1000 Mbps (RJ45 Jack).
- 2.10 UNINTERRUPTABLE POWER SUPPLY (UPS)
 - A. All DAS equipment and components shall be connected to a UPS system to maintain uptime during failover of normal power to generator power. This includes head-end, remote equipment, and any other equipment/components requiring power, etc.
 - B. Contractor shall interface DAS power to UPS, power strips, and/or other power receptacles provided as such.
 - C. Any other UPS or battery backup equipment required to support the DAS shall be provided as part of this scope.
- 2.11 ALTERNATES
 - A. Wi-Fi Offload; the DAS solution shall include options for technology that seamlessly offloads a user's cellular service to Wi-Fi. The Contractor shall present options for supporting this technology and information on maintaining quality of service. Additionally, Contractor shall provide options for amount of traffic that can be offloaded and associated requirements for ensuring performance and uptime of Wi-Fi system.
 - B. Contractor Proposed Alternatives
 - 1. The Contractor may propose alternatives for Owner consideration.
 - 2. All alternatives shall include, revenue sharing, pricing, description, equipment cut-sheets and any other technical documentation necessary.
 - C. Manufacturer Proposed Alternatives

1. The DAS Manufacturer may propose alternatives for Owner consideration.
2. All alternatives shall include pricing, description, equipment cut-sheets and any other technical documentation necessary.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. The following examination tasks shall be performed by Contractor:
 1. Examine pathway elements intended for cable. Check raceways, cables trays, and other elements for compliance with space allocations, installation tolerances, hazards to cable installation, and other conditions affecting installation.
 2. Examine rough-ins for antenna to verify actual locations of cable connections before antenna installation.
 3. Examine walls, floors, roofs, equipment bases, and roof supports for suitable conditions where equipment is to be installed.
 4. Proceed with installation only after unsatisfactory conditions have been corrected.
 5. Provide detailed site survey to determine best cable routing and location of antennas.

3.2 SYSTEM DESIGN CRITERIA

- A. General:
 1. The system must be able to handle the facility's capacity requirements, growth and technology upgrades within the primary DAS equipment room(s), communications rooms, Owner, and service provider entrance facilities without being invasive to other areas. The system shall distribute and support the following:
 - a. All current technologies available to existing wireless providers authorized to provide service in the United States in all frequency bands.
 - b. All current public safety and emergency responders' two-way radio communications including First Responders, Police, Fire, Ambulance, and other emergency systems utilized by Public Authorities and Agencies.
 - c. All current building operations two-way radio systems and other in-house two-way radio communication systems.
 - d. All current and planned technologies as required and noted in this specification.
 2. The system must provide the ability to distribute additional protocols and frequencies in the 450 MHz to 2500 MHz range as well as other frequencies from 2500 MHz to 6 GHz. Contractor shall note the capability of the proposed solution.
 3. The system must allow service providers to add capacity at any time, subject to space limitations in equipment rooms and telecommunications spaces. The system shall have spare capacity built-in and Contractor shall note spare capacity and expansion capability of the proposed solution.

4. The system must enable service providers to distribute signal uniformly inside locations in a manner that mitigates interference to their outside network.
5. The coverage inside the building (in all designated areas) shall provide dominant signal to overcome other signals from other zones or sectors within the building and from outside the building by at least 10dB at the coverage edge for 800 and 1900 MHz with a+28dBm input per RF channel into the POI.

B. Topology:

1. General: The topology will be a hierarchical star using a structured cabling system implemented for IT and telecommunications. The topology includes a backbone segment that connects comm room locations and a horizontal segment that connects antennas to comm rooms.
2. Main Equipment Room: A dedicated equipment room called a DAS Room will be provided. This location will serve as the main distribution hub and main equipment room for DAS, Wireless Carrier, Public Safety, and Building Operations. Any fit up of the room be the sole responsibility of the Contractor
3. Communication Rooms:
 - a. All DAS equipment including remote units, transceivers, amplifiers, media converters, patch panels, etc. shall be installed in Intermediate Communications Rooms.
4. Backbone Distribution:
 - a. The backbone shall use Single-Mode Fiber Optic Cable provided as part of this work.
 - b. A fiber optic cable segment will be routed from the DAS Room to each Intermediate Comm Room and remote unit location.
 - c. The Contractor shall indicate immediate and future strand quantity required for the proposed solution.
 - d. All backbone cable shall be UL-Listed and meet environment conditions for where the cable is routed including plenum or risers.
 - e. All exterior cable with any metallic components including conductors and/or sheath shall have UL-Listed transient surge protection devices appropriately grounded per Building Codes installed on each end of the cable and as per manufacturer's requirements.
5. Horizontal Distribution:
 - a. Horizontal cable types shall be specified by the Contractor based on the proposed solution and Manufacturer's requirements.
 - b. Horizontal cable shall be routed from the Antennas to the Intermediate Communications Rooms and remote unit.

- c. All horizontal cable and components shall be UL-Listed and plenum rated.
 - d. All exterior cable with any metallic components including conductors and/or sheath shall have UL-Listed transient surge protection devices appropriately grounded per Building Codes installed on each end of the cable and as per manufacturer's requirements.
- 6. Antenna:
 - a. Antennas will be connected to horizontal distribution.
- 7. Telecom Back-Haul:
 - a. Telecommunications backhaul necessary to interface Service Providers to the PSTN will utilize backbone cable interconnecting the DAS Room to the Data Center.
- C. System:
 - 1. The DAS shall cover all interior and exterior building areas.
 - 2. The interior system shall provide full coverage to all interior spaces. Refer to DAS coverage drawing in the Electrical Technology Set for additional requirements.
 - 3. The requirements for the exterior system require additional coordination with all Service Providers including Wireless Carriers, Public Safety, and Building Operations. The Contractor shall propose a system for consideration by Owner and Service Providers.
- D. Coverage and Capacity:
 - 1. The DAS shall meet all coverage and capacity requirements for this facility type based on highest occupancy and facility use.
 - 2. The system shall be designed with the appropriate sector/zone capacity and antenna points to ensure acceptable performance.
 - 3. Refer to DAS Coverage Drawings included within the Electrical Technology Documents which indicate proposed coverage areas based on building area types.
 - 4. The following General Areas of Coverage apply to the facility:
 - a. Entire building interior of both buildings
 - b. Exterior areas per coordination with Owner, Owner Representative, and Wireless Carriers.
 - c. Elevators, Escalators, Stairs, and Stair Towers.
 - d. Public Concourses, Restrooms, Building Entrances, and Restrooms.
 - e. Media and Print Press Areas.
 - f. Administrative Office Areas, Work Areas, and Lounges.
 - g. Back of House Corridors and Work Areas.
 - h. Parking Garages
 - 5. Other Wireless and Interference: Considerations shall be provided for minimizing interference from other susceptible systems including but not limited to the items noted below.
 - a. Assisted Listening Devices

- b. Bluetooth Devices
 - c. Cordless Telephones
 - d. FM Radio Transmitter
 - e. Media TV Broadcast
 - f. Media TV Intercoms
 - g. Media Radio Broadcast
 - h. Microwave Ovens
 - i. Specialty Event Wireless
 - j. Wireless Broadcast
 - k. Wireless Microphones
 - l. Wireless Telephone Headsets
- E. Sectors/Zones: The DAS shall accommodate multiple sectors (or zones) to ensure high capacity requirements that are acceptable to these facility types and worst case occupancy. Exact requirements shall be coordinated by the Contractor with Owner and all Service Providers including but not limited to Wireless Carrier, Public Safety, and Building Operations.
- F. Equipment Rooms and Communication Rooms
 - 1. DAS Room:
 - a. The DAS Room will serve as the main distribution hub and main equipment room for DAS, Wireless Carrier, Public Safety, and Building Operations.
 - b. The DAS Room will be a co-location equipment room for all Cellular Carrier equipment provided by others.
 - c. All DAS head-end equipment, transceivers, media converters, amplifiers, and patch panels shall be installed in cabinets and racks.
 - d. All Public Safety head-end equipment, base station equipment, repeater equipment, transceivers, media converters, amplifiers, and patch panels shall be installed in cabinets and racks.
 - e. All Building Operations head-end equipment, base station equipment, repeater equipment, transceivers, media converters, amplifiers, and patch panels shall be installed in cabinets and racks.
 - f. Electrical power including receptacles and UPS power will be provided by others.
 - g. Contractor to provide all HVAC including air-conditioning. This includes but is not limited to duct work and CRAC units.
 - 1). Contractor shall identify and coordinate the individual requirements of components and systems and provide all required equipment.
 - h. Contractor to provide all fire suppression equipment for DAS room and attached Main Communications and Server rooms.

1). Fire suppression system shall be pre-action, and comply with all requirements per specifications.

- i. The project has set aside a room of just over 500 sqft. If the DAS head-end equipment requires more space than this, the contractor, Owner and Owners Representative will need to discover and approve additional space.

1). Associated systems include HVAC, power, lighting and fire suppression. All of this equipment must fulfill all requirements of equipment in room below.

2. Intermediate Communication Rooms:

- a. Intermediate Comm Rooms are shared rooms that co-locate technology systems and distribution in the facility.
- b. Remote units, transceivers, media converters, amplifiers, and patch panels shall be installed in cabinets and racks.
- c. Electrical power including receptacles and UPS power will be provided by others.
- d. HVAC including air-conditioning will be provided by others.

1). Contractor shall identify and coordinate the individual requirements of components and systems. Contractor shall provide any improvements beyond any existing systems.

G. Antennas:

1. The Contractor shall provide all antennas necessary for a complete and fully operation system.
2. Provided below is a general list of antennas required for this project.
 - a. Interior Wireless Antennas
 - b. Exterior Wireless System Antennas
 - c. GPS Antennas
3. Contractor shall propose antennas recommended by Manufacturer based on the proposed solution.
4. Antennas shall be located as necessary to provide the appropriate coverage and capacity requirements for all the wireless systems being supported and as listed in this specification.
5. All antennas and associated locations shall be discreet.
6. All antenna locations shall be coordinated with Building Management prior to initiating any work.
7. Samples of each antenna type used on the project shall be submitted to the Owner and/or Building Management for approval.

H. Public Safety System: Provide all necessary head-end equipment, radio equipment, system interfaces, hardware, and distribution components to

accommodate public safety two-way radio communications systems for each of the agencies listed below. The Contractor shall obtain a copy of the appropriate current standards from each agency and ensure these requirements are fully provided for and supported in the DAS per those standards. All necessary equipment shall be included in the distributed antenna design. Separate meetings will be setup later with each agency by the Owner to review requirements for this project specifically.

1. Police Department
2. Fire Department

- I. Building Operations Systems: Contractor shall provide all necessary head-end equipment, radio equipment, system interfaces, hardware, and distribution components to accommodate the Owner's building operation two-way radio communications system. The Contractor shall confirm the Owner's existing system and frequency assignment and ensure these requirements are fully provided for and supported in the DAS per those standards. All necessary equipment shall be included in the distributed antenna design. Separate meetings will be set up later with the Owner to review requirements for this project specifically.
- J. Wireless Carrier Systems: Provide all necessary head-end equipment, system interfaces, hardware, and distribution components to accommodate all Wireless Carrier's equipment. The Contractor shall confirm current equipment and frequency assignment utilized by the Wireless Carriers and ensure these requirements are fully provided for and supported in the DAS. All necessary equipment shall be included in the DAS design other than the Wireless Carrier's equipment. Separate meetings will be set up later with the Owner and Wireless Carriers to review requirements for this project specifically.

3.3 INSTALLATION

A. General:

1. This Section describes the installation locations for the products and materials, as well as methods associated with the DAS and wireless installation portions of the Project. These Specifications, along with the drawings shall be followed during the course of the installation.
2. The Contractor shall examine areas and conditions under which DAS infrastructure is to be installed. Notify Owner and /or Building Management in writing of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
3. The Contractor shall be knowledgeable of work to be performed by other trades and take necessary steps to integrate and coordinate their work with other trades.
4. The Contractor shall be responsible for furnishing all materials as specified herein and as indicated on the drawings for a complete DAS.

5. The Contractor shall verify space requirements and locations before starting cable installations and terminations. Inappropriate conditions shall be immediately reported to Building Management, prior to initiating installation.
6. All DAS and communications infrastructure shall be installed in an aesthetically pleasing fashion. All surface raceway in new buildings must be approved by the Owner and Owner's Representative
7. All communications infrastructure shall be installed for optimal performance.
8. All DAS and communications infrastructure shall be installed to allow for easy additions, moves, and other changes in the future.
9. The Contractor will create a mock up program including the installation of a complete kit of each public location of the AP, radio and enclosure, fully painted and secured for sign off. Refer to Submittal Requirements outlined in Section 1.14 for requirements.
10. Final labeling scheme for all DAS and communications components shall be coordinated with the Owner and Engineer during the shop drawings process, prior to initiating work. Labeling scheme shall include but not be limited to communications rooms, cabinets, racks, cable terminal blocks and patch panels, antennas, outlets, cables, etc.
11. Construction within communication rooms must be substantially complete before the installation of the DAS and communications cabling. This includes, but is not limited to, the installation of plywood backboard, cable tray or ladder rack, electrical outlets, light fixtures, sprinklers and ductwork. All walls shall also be painted before the installation.
12. All components noted in this section and drawings shall be provided and completely set up and installed. This includes but is not limited to Cable, Terminations, and Cable Managers.
13. The Contractor is required to coordinate their efforts with the other trades and sub- contractor who may be working within the same vicinity to avoid conflict and lost time.
14. The Contractor shall supply all necessary tools, equipment, accessories, safety equipment, protective clothing, etc., as customary for the craft and necessary for the installation.
15. Where applicable, the Contractor shall verify existing cable fill in riser conduits before installation of additional cables so as not to exceed 40% cable fill. Contractor will be responsible for installation of additional riser conduit, where additional cables to be added will exceed the 40% cable fill.
16. The contractor shall not install any component in a manner or condition that will void manufacturer and/or contractor warranty. Any such conditions that prevent an acceptable install shall be immediately reported to Building Management before initiating

installation. All mis-installed components will be removed and replaced with new, appropriate components at the Contractor's expense. No additional cost will be submitted to Owner.

17. All equipment shall be installed in a neat and workmanlike manner, arranged for convenient operation, testing and future maintenance.
18. Communication rooms must be free from dust, dirt, and other foreign materials before the installation of any termination hardware or the termination of fiber optic cables. The door to the communication rooms must be installed and closed during termination.

B. Raceway Installation: The following procedures shall apply to raceway installation:

1. Provide floor to floor distribution with concrete floor sleeves or conduits as noted on the drawings, and as required by Architectural Design.
2. Provide protective cable bushings on all conduits immediately after installation.
3. Use only electrical 45° or 90° conduit elbows with long bend radii. Refer to manufacturer and industry standard requirements for minimum bend radii.
4. Do not place more than two 90° sweeps or exceed 100 ft. between pull boxes without providing a pull box.
5. Contractor shall provide horizontal conduits as necessary. Cable fill in conduits shall not exceed 40% cable fill.
6. Conduits shall be installed with pull strings. Do not exceed manufacturer's recommended pulling tensions.
7. Fire seal all raceway penetration and openings to maintain fire rating after communications cables are installed.
8. Provide labels on all communications pull-boxes and junction-boxes.
9. Identify conduits at cable tray end by architectural room number.

C. Cable Installation: The following procedures shall apply to cable installation:

1. All distribution cable, backbone cable, horizontal cable, radiating cable, and antenna cable must be plenum rated.
2. All DAS and communications cables routed within communications rooms shall be bundled and combed to provide a neat and organized appearance. This includes horizontal and vertical cables routed on cable tray, d-rings, vertical cable managers, equipment rack cable managers, etc. Cables shall be bundled using only manufacturer and industry approved wire ties with tensions that do not deform and damage cable resulting in loss of transmission or performance. Any bundles and combing methods used

shall not exceed manufacturer or industry standard recommendations for that cable type.

3. Install cables concealed in accessible ceilings. Install cables according to manufacturer's recommended installation practices using approved hangers at a maximum spacing of every 48-inches (1.2m).
4. Do not lay cable on suspended tile ceiling, ductwork, piping, conduit, or other building equipment.
5. Do not route radiating coaxial cable through metallic conduit or sleeve through a wall or partition. Transition to a non-radiating coax or jumper to pass through metal conduit or concrete.
6. Mount radiating coaxial cable a continuous minimum distance of 2-inches (50mm) off any surface.
7. In order to minimize loss of RF signal due to shadowing, generally route radiating coaxial cable below the installed height of other infrastructure if within 2-feet (.7m) of HVAC ductwork, metal pipes, sprinklers, pull boxes, 36ttendan, cable tray, or other cabling.
8. Contractor shall train cables to the termination points with no excess where cable is installed within enclosures.
9. Cable bends shall not be less than that recommended by the manufacturer of the cable. Do not exceed manufacturer's minimum bending radii and other cable requirements. Provided below are some examples but all requirements shall be verified.
 - a. The minimum installed bend radius of ½-inch radiating coax is 5-inches (125mm).
 - b. The minimum routing bend radius of ½-inch radiating coax is 10-inches (250mm).
 - c. If cable (non-radiating coaxial cable) is to be installed in conduit, the bend radii of the conduits must be greater than 10-inches.
 - d. If conduit bend radius is less than 10-inches, the coaxial cable must be terminated (connectorized) prior to pulling through conduit and a jumper must be used for routing through conduit.
10. The contractor shall not install any cable in conduits that does not have the appropriate protective bushings on conduit ends. All mis-installed cable will be removed, bushings installed, and new cable re-installed at the Contractor's expense. No additional cost will be submitted to Owner.

11. Do not install bruised, kinked, scored, deformed, or abraded cable. Remove and discard cable if damaged during installation and replace it with new cable.
 12. Do not splice cable between termination, tap, junction points, or between damaged cable segments.
 13. Any exposed cables shall be installed parallel to building lines. Follow surface contours and support the cable according to manufacturer's written instructions. Do not run adjacent and parallel to power or data cables. All exposed cable routing shall be coordinated with the Owner and Owner's Representative prior to installation.
 14. All cables shall be installed in conduit when routed exposed at public areas. Contractor shall verify identify certain cables types that may not be possible due to size and/or flexibility. Contractor shall coordinate these instances for approval with Owner and Owner's Representative prior to installation.
 15. Provide a minimum 8'-0" and maximum 10'-0" of slack at the Communications room. Loop shall be contained on the horizontal cable tray or ladder rack.
 16. Care shall be taken so as not to damage cable during the installation process and that the manufacturer's and industry standard's pull tension specification is not exceeded.
 17. Within communications rooms, cables shall be snugly wrapped using Velcro reusable cable ties, a minimum of every 3'-0" for cable organization. Velcro ties shall be tightened so as not to deform cable jackets and thus affect cable performance. Plastic cable tie wraps shall not be used.
 18. Provide independent signal circuit grounding recommended by manufacturer.
 19. Under no circumstances shall the cable be painted, treated, or covered with other material unless approved by manufacturer.
- D. Antenna Installation: The following procedures shall apply to antenna installation:
1. All antennas and associated locations shall be discreet. Antennas shall be concealed wherever possible using stealth technology to ensure installation maintains high architectural form critical to the high-end finish of this project.
 2. All antenna locations shall be coordinated with Owner's Representative prior to initiating any work.
 3. Install antennas per manufacturer's requirements.

4. Contractor shall install antennas with all necessary supports to ensure safe installation and support to prevent falling.
 5. Antennas shall be rated accordingly and as applicable for the installation type, location, condition, and application supported.
- E. Equipment Installation: The following procedures shall apply to equipment installation:
1. Install surge suppressors where ac-power-operated devices are not protected against voltage transients by integral surge suppressors specified in UL1449. Install surge suppressors at the devices' power-line terminals.
 2. Mount electronic equipment in the types of cabinets recommended by manufacturer. Group related items in methodical sequence.
 3. Arrange equipment to facilitate access for maintenance and to preserve headroom and passage space.
 4. Interface DAS equipment with all base station equipment as required during installation period of DAS.
 5. Label all equipment and interfaces.
- F. Long Term Wireless Carrier Interface
1. Contractor shall coordinate and supervise the installation of Cellular Carrier Equipment and interfaces to the DAS.
- G. System Management and Monitoring Software Installation: The following procedures shall apply to system management and monitoring software installation:
1. Install software on Owner provided computers.
 2. Coordinate computer and data network requirements with Owner's IT Group. This should include MAC and IP addressing, VLAN assignment, bandwidth requirements, class of service (CoS), VPN requirements, etc.
 3. The system management and monitoring software shall be fully set up, programmed, and configured including but not limited to the following:
 - a. Date and Time.
 - b. Networked DAS end points including but not limited to antenna points, remote units, base head-end equipment, etc.
 - c. Graphical user interface (GUI) including facility dictating interactive icons for all equipment locations and antenna points.
 - d. Web portals, user access, and VPN.
 - e. Administrator accounts, passwords, and security levels.
 - f. User accounts, passwords, and security levels.
 - g. Device thresholds, status, alarm points, alerts, and notification.

- a. Remote diagnostics.
- b. System Inventory.
- c. Event reporting protocol.
- d. System logs including status, performance, alarms, history, and others.
- e. Maintenance log, schedules, and notification.

3.4 COORDINATION

- A. Design Coordination: All components proposed by the Contractor shall be coordinated with the Owner and Manager. Provided below is a general list of major items that shall be documented in a table and coordinated. The list provided below is to be used as an example and is not intended to be all inclusive or to limit items required to be reviewed and coordinated.
 - 1. Equipment Type and Physical Size.
 - 2. Rack Units required per location.
 - 3. Electrical Power (voltage, amp, loads, and receptacle types)
 - 4. HVAC (heat dissipation and equipment operating temperature range)
 - 5. Antenna Types and Locations
 - 6. Backbone Distribution (fiber strand allocation)
- B. RF and Wireless Coordination:
 - 1. The Contractor shall perform an onsite RF and wireless study prior to starting work. This information shall be submitted in hard copy documents.
 - 2. The Contractor shall obtain a copy of the Owner's current RF strategy and frequency assignment. This information shall be reviewed in detail to identify any interfering and/or potentially interfering sources.
 - 3. The Contractor shall review and coordinate the onsite study, Owner's current RF strategy and frequency assignment, and proposed DAS design. The Contractor shall make recommendations to the Owner and adjust the proposed design accordingly to ensure no interfering sources or overlap of frequency assignment.
 - 4. The Contractor shall perform an on-site RF and wireless study after completing system installation. This information shall be submitted in hard copy documents. The results of this test shall be reviewed by the Contractor and Manufacturer to confirm system compliance with coverage, capacity, and performance requirements.
 - 5. All documents submitted by Contractor including product data, submittals, as-built, test results, drawings, reports, etc. shall be provided in electronic (pdf) and paper format.
 - 6. The Contractor will coordinate all Public Safety frequencies, preferred manufacturer make/model, antennas,

equipment, power conditions and locations with person who will manage the install.

7. Refer to submittal requirements as outlined in Section 1.5.
- C. Installation Coordination: The Contractor shall field coordinate all work with Building Manager and other Sub-Contractors and Trades as necessary to minimize conflicts.
- D. Schedule: The Contractor shall coordinate the project schedule with the Building Manager including but not limited to the following:
 1. RFP Response
 2. Submittals
 3. Construction and Phasing
 4. Installation
 5. Substantial Completion
 6. Final Completion
 7. System Acceptance

3.5 IDENTIFICATION

- A. The following procedures shall apply to system labeling:
- B. General Label Requirements:
 1. The labeling scheme shall be provided by the Contractor and coordinated with the Owner and/or Building Manager prior to initiating any work. A sample scheme shall be submitted for approval.
 2. Mechanically print and install all labels.
 3. Format: Select font size to be readable and to fit all information required without overlap of text.
 4. Use all capital letters.
 5. All labels shall be consistent font type, size, and color throughout project.
 6. Labels shall be white with black text.
 7. Clean all surfaces prior to attachment of any label. Follow manufacturer's recommendations for cleaning and affixing labels.
 8. Method: Brady cable labels appropriately sized or approved equivalent.
- C. Cable:
 1. Label Location: Within 4 inches (100 mm) of each termination.
 2. Near-End Label Information: "Cable No. XXX and Comm Room ZZZ -DAS Cable. Do not disturb," where XXX and ZZZ are actual room numbers assigned. Room numbers shall be coordinated with Owner and/or Building Manager.
 3. Far-End Label Information: "Cable No. XXX and Room ZZZ -DAS Cable. Do not disturb," where XXX and ZZZ are actual room numbers assigned. Room numbers shall be coordinated with Owner and Owner's Representative.

4. Radiating Cable: In addition to end labels, any radiating coaxial cables shall be labeled "Radiating Coaxial Cable."
- D. Equipment:
1. Label all equipment, components, cabinets, and enclosures.
 2. Label Information: Equipment No. and Type (or Short Description).

3.6 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Contractor shall engage a factory-authorized service representative to inspect field-assembled components and equipment installation, and supervise pre-testing, testing, and adjusting of equipment.
- B. Inspection: Contractor shall verify that units and controls are properly installed, connected, and labeled and that interconnecting wires and terminals are identified.
- C. Pre-testing: Contractor shall align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Replace malfunctioning or damaged items. Retest until satisfactory performance and conditions are achieved.
- D. Operational Tests: Contractor shall perform operational system tests to verify that system complies with Specifications. Operational tests shall include all modes of system operation. Equipment shall be tested for proper operation in all functional modes.
- E. Test Schedule: Contractor shall schedule tests after Operational testing has successfully been completed and system has been in normal functional operation for at least 14 days. Contractor shall provide a minimum of 10 days' notice of the test schedule.
- F. Qualitative and Quantitative Performance Tests: Contractor shall verify for each major frequency band identified by Owner that signal coverage area, signal coverage levels, and signal coverage consistency are compliant with Specifications. Testing shall be conducted using calibrated "walk- test" receivers.
- G. Test Results: Contractor shall record test results and publish them in electronic and hard copies for distribution to Owner.
- H. Re-Test: Contractor shall correct all deficiencies identified by tests and observations, and retest until specified requirements are met.
- I. Commissioning:
 1. Contractor shall create and submit a detailed checklist for commissioning system equipment and components. The list shall be submitted for Owner review. System commissioning shall be completed by the Contractor prior to system acceptance by Owner. A formal report shall be generated that includes sign-off and notes of all items.
 2. System commission shall include the following categories.
 - a. Validate Procured Components

- a. Physical Installation and Location
- b. Equipment Connectivity and Inter-Connectivity
- c. Support Systems Functioning (HVAC, electrical, and UPS)
- d. System Setup and Operation
- e. Wireless Surveys
- f. Testing
- J. Contractor shall provide onsite support for each major event for the first 120 days following the final installation. A major event shall be any event with an attendance exceeding 15,000 attendees.

3.7 CLEANING

- A. Contractor shall clean installed items using methods and materials recommended by manufacturer.
 - B. Contractor shall clean system components, including antennas and supports, electronic equipment, and distribution components.
- 3.8 RECORD DOCUMENTATION
 - A. Record documentation shall be submitted to the Owner by the Contractor at the completion of the DAS installation. The contractor shall submit all information necessary to operate and maintain the system including but not limited to the following:
 - 1. As-Built Documents
 - 2. Operations and Maintenance Manuals
 - 3. Maintenance Schedule
 - 4. Maintenance Company Contact Information
 - 5. Troubleshooting Guide
 - 6. Product Data and Manufacturer Cut-Sheets
 - 7. Warranty Information and Contact
 - 8. Manufacturer's Product and Installation Certificate
 - 9. Log (troubleshooting, replacement, expansion, and replacements)
 - 10. Labeling Scheme
 - 11. Spare Parts Lists
 - B. Contractor shall maintain current record documents at the construction site.
 - C. All documents submitted by Contractor including product data, submittals, as-built, test results, drawings, reports, etc. shall be provided in electronic (pdf) and paper format.
 - D. Refer to submittal requirements as outlined in Section 1.5

SECTION 5: TERM OF CONTRACT:

- 5.1 The contract period shall be for a period of ten (10) years and shall commence on the date of the fully executed contract.
- 5.2 At the end of the initial ten year contract term upon mutual agreement of the County and the Contractor, the agreement may be renewed for ten (10) additional years, in two (2) consecutive ten-year intervals.
- 5.2 The successful Proposer shall execute a contract with the County of Albany in substantial conformance with this RFP as prepared and approved by the County Attorney.

SECTION 6: REVENUE PROPOSAL:

- 6.1 Submit a revenue proposal for the services described above in Section 4, Scope of Services
- 6.2 A minimum non-refundable upfront engagement fee in an amount not less than \$225,000 is required.

6.3 A minimum of \$50,000 per signed carrier is required.

6.3 Provide any other relevant information that will assist the County in evaluating your Proposal.

SECTION 7: PROPOSAL SUBMISSIONS

7.1 In order for the County to conduct a uniform review process of all proposals, proposals must be submitted in the format set forth below. Failure to follow this format may be cause for rejection of a proposal because adherence to this format is critical for the County's evaluation process:

SECTION I:

Title Page - The title page should reflect the Request for Proposal subject, name of the proposer, address, telephone number and contact person.

Table of Contents - The Table of Contents must indicate the material included in the proposal by section and page number.

SECTION II:

Qualification / Experience - The Qualification / Experience section must address proposer's qualifications and experience to carry out the requested service, inclusive of, but not limited to: qualification to do business in NYS, number of years in business and length of experience.

Resumes - Resumes of professional staff members who will be involved in the County engagement must be included in this section.

SECTION III:

References - The References section must include references from similar type projects.

SECTION IV:

Plan Implementation - The Plan Implementation Section must address the Scope of Services in terms of the proposer's plan to carry out the requested service.

SECTION V:

Cost Proposal Section - The Cost Proposal Section must include all costs associated with the proposer's plan to carry out the requested service. Any cost proposal forms furnished by the County must be included in this section.

SECTION VI:

Mandatory Documentation - The Mandatory Documentation Section must include: The Non-Collusive Bidding Certificate (Attachment "A"), Acknowledgment by Proposer (Attachment "B"), and Vendor Responsibility Questionnaire (Attachment "C"); Iranian Energy Divestment Certification (Attachment "D").

SECTION 8: PROPOSAL EVALUATION

8.1 Proposals will remain valid until the execution of a contract by Albany County, unless otherwise rejected consistent with this RFP.

8.2 Proposals received will be evaluated by a committee with representation from the Albany County *DGS and ASM Global*. Proposals shall be evaluated based upon the following:

<i>CRITERIA</i>	<i>WEIGHT</i>
Total Proposed Compensation	60%
Proposer's demonstrated capabilities, financial solvency	40%

8.3 Proposals will be examined and evaluated by the **DGS and/or ASM Global** with the advice of the Albany County Purchasing Agent to determine whether the requirements of this RFP are met and to make a recommendation to the Albany County Executive, the Albany County Contracts Administration Board or the County Legislature for a contract award.

8.4 A notice of contract award shall not be binding upon the County until the contract has been fully executed by both parties

SECTION 9: SECTION NOT IN USE

SECTION 10: ALTERNATIVES

10.1 Proposer may include in its Proposal items not specified in this RFP, which it would consider pertinent. All such alternatives must be listed separately from the Proposal and the cost thereof must be separate and itemized.

SECTION 11: INDEMNIFICATION

11.1 The successful Proposer shall defend, indemnify and save harmless the County, its employees and agents, from and against all claims, damages, losses and expenses (including without limitations, reasonable attorneys' fees) arising out of, or in consequence of, any negligent or intentional act or omission of the successful Proposer, its employees or agents, to the extent of its or their responsibility for such claims, damages, losses and expenses.

SECTION 12: SPECIFICATION CLARIFICATION

12.1 All inquiries with respect to this Request for Proposals must be directed to the Albany County Purchasing Agent as follows:

Pamela O Neill
Albany County Purchasing Agent
112 State Street, **Room 1000**
Albany, NY 12207
Telephone: (518) 447-7140
Facsimile: (518) 447-5588
Email: pamela.oneill@albanycountyny.gov

12.2 All questions about the meaning or intent of the specifications must be submitted to the aforementioned designated person in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded as having received the proposal documents. Questions received less than four (4) days prior to the date of submission of Proposals will not be answered. The County will be bound only by responses given by formal written Addenda.

12.3 Other than the contact person identified in the Proposal, or their designee, prospective Proposers shall not approach County employees during the period of this RFP process about any matters related to this RFP or any proposals submitted pursuant thereto.

SECTION 13: MODIFICATION AND WITHDRAWAL OF PROPOSALS

13.1 Proposals may be modified or withdrawn at any time prior to the opening of Proposals by an appropriate document duly executed (in the manner that a Proposal must be executed) and delivered to the place where Proposals are to be submitted.

13.2 If within twenty-four (24) hours after the Proposals are opened, any Proposer files a duly signed written notice with the County and promptly thereafter demonstrates to the reasonable satisfaction of the County that there was a material and substantial mistake in the preparation of its Proposal, that Proposer may withdraw its Proposal and the Proposal Security will be returned. Thereafter, that Proposer will be disqualified from making a further or additional proposal on the work contemplated by this RFP.

13.3 Each proposal shall state that it is an irrevocable offer for a period of ninety (90) days from the Proposal opening date. After expiration of the irrevocable offer period, if no contract award has been made, a Proposal may be withdrawn if the Proposer does so in writing directed to the County Purchasing Agent; otherwise, Proposals remain in effect consistent with the terms of this RFP.

SECTION 14: PROPOSAL SECURITY

14.1 No proposal security is requested for this Proposal.

SECTION 15: INSURANCE AND SECURITY REQUIREMENTS

15.1 The successful Proposer will be required to procure and maintain at its own expense, the following insurance coverage:

- (a) **Worker's Compensation and Employer's Liability Insurance:** A policy or policies providing protection for Employees in the event of job related injuries.
- (b) **Automobile Liability Insurance:** A policy or policies of insurance with the limits of not less than \$500,000 combined for each accident because of bodily injury sickness or disease, sustained by any person, caused by accident, and arising out of the ownership, maintenance or use of any automobile for damage because of injury to or destruction of property, including the loss of use thereof, caused by accident and arising out of the ownership, maintenance or use of any automobile.
- (c) **General Liability Insurance:** A policy or policies or comprehensive all-risk insurance with limits of not less than:

Liability For:	Combined Single Limit
Property Damage	\$1,000,000
Bodily Injury	\$1,000,000
Personal Injury	\$1,000,000

- (d) **Professional Liability Insurance:** A policy or policies with limits not less than \$1,000,000.

15.2 Each policy of insurance required shall be of form and content satisfactory to the Albany County Attorney:

- (a) Albany County shall be named as an additional insured on all liability policies. **Proposal number must appear on insurance certificate.**
- (b) The policy shall not be changed or canceled until the expiration of thirty (30) days after written notice to Albany County. It shall be automatically renewed upon expiration and continued in force unless Albany County is given at least thirty (30) days written notice to the contrary.

15.3 No work shall be commenced under the contract until the successful Proposer has delivered to the County Purchasing Agent or his designee proof of issuance of all policies of insurance required by the Contract to be procured by the successful Proposer. If at any time, any of said policies shall expire or become unsatisfactory to the County, the successful Proposer shall promptly obtain a new policy and submit proof of insurance of the same to the County for approval. Upon failure of the successful Proposer to furnish, deliver and maintain such insurance as above provided, the contract may, at the election of the County, be forthwith declared suspended, discontinued or terminated. Failure of the successful Proposer to procure and maintain any required insurance, shall not relieve the successful Proposer from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the successful Proposer concerning indemnification.

SECTION 16: REMEDY FOR BREACH

16.1 In the event of a breach by CONTRACTOR, CONTRACTOR shall pay to the COUNTY all direct and consequential damages caused by such breach, including, but not limited to, all sums expended by the COUNTY to procure a substitute contractor to satisfactorily complete the contract work, together with the COUNTY's own costs incurred in procuring a substitute contractor.

SECTION 17: CASH DISCOUNT

17.1 Cash discounts may be offered by a Proposer for prompt payment of bills, but such cash discounts will not be taken into consideration in determining the low Proposer.

17.2 For purposes of any applicable cash discount, the payment date shall be calculated from the receipt of invoice or final acceptance of the goods, whichever is later.

SECTION 18: FREEDOM OF INFORMATION LAW

18.1 Confidential, trade secret or proprietary materials as defined by the laws of the State of New York must be clearly marked and identified as such upon submission. Proposers intending to seek an exemption from disclosure of these materials under the Freedom of Information Law (New York State Public Officers Law, Sections 84-90) must request the exemption in writing, at the time of the submission of the materials, setting forth the reason for the claimed exemption. In addition, the proposer must mark each page of its submission on which there appears any material claimed to be protected as confidential or proprietary with the following legend, in bold face, capital letters at the top of each page: "THE PROPOSER BELIEVES THAT THIS INFORMATION IS PROTECTED FROM DISCLOSURE UNDER THE NEW YORK STATE FREEDOM OF INFORMATION LAW". Acceptance of the claimed materials does not constitute a determination on the exemption request, which determination will be made in accordance with statutory procedures.

SECTION 19: MACBRIDE PRINCIPLES

19.1 Contractor/Proposer hereby represents that said contractor/proposer is in compliance with the MacBride Principles of Fair Employment as set forth in Albany County Local Law No. [3] for 1993, in that said contractor/proposer either (a) has no business operations in Northern Ireland or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles. In the event of a violation of this stipulation, the County reserves all rights to take remedial measures as authorized under section 4 of Local Law No. [3] in 1993, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the contract/proposer in default and/or seeking debarment or suspension of the contractor/proposer.

19.2 In the case of a contract which must be let by competitive sealed bidding, whenever the lowest bidder has not agreed to stipulate to the conditions set forth in this section, and another bidder who has agreed to stipulate to such conditions has submitted a bid within five percent of the lowest bid for a contract to supply goods, services or construction of comparable quality, the contracting entity shall refer the contract to the County Legislature, which shall determine whether the lowest bidder is responsible. In making such determination, the County Legislature may consider, as a factor bearing on responsibility, whether the lowest bidder discriminates in employment in Northern Ireland.

19.3 As used in this section, the term "contract" shall not include contracts with government and non-profit organizations, contracts awarded pursuant to an emergency procurement procedure or contracts, resolutions, indentures, declarations of trust or other instruments of authorizing or relating to the authorization, issuance, award, sale or purchase of bonds, certificates of indebtedness, notes or other fiscal obligations of the County, provided that the policies of this section shall be considered when selecting managing underwriters in connection with such activities.

19.4 The provisions of this section shall not apply to contracts for which the County receive funds administered by the United States Department of Transportation, except to the extent Congress has directed that the Department of Transportation not withhold funds from states and localities that choose to implement selective purchasing policies based on agreement to comply with the MacBride Principles, or to the extent that such funds are not otherwise withheld by the Department of Transportation.

SECTION 20: SECTION NOT IN USE

SECTION 21: ANTIDISCRIMINATION CLAUSE

21.1 Pursuant to Section 220-E of the NYS Labor Law, regarding provisions in contracts prohibiting discrimination on account of race, creed, color or national origin in employment of citizens upon public works, the Contractor agrees: (a) That in the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall by reason of race, creed, color, disability, gender, marital status, military status, sexual orientation or national origin discriminate against any citizen of the state of New York who is qualified and available to perform the work to which the employment relates; (b) That no contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, color, disability, gender, marital status, military status, sexual orientation or national origin; (c) That there may be deducted from the amount payable to the contractor by the state or municipality under this contract a penalty of fifty dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract; (d) That this contract may be cancelled or terminated by the state or municipality, and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the contract; and (e) The aforesaid provisions of this section covering every

contract for or on behalf of the state or a municipality for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the state of New York.

SECTION 22: EXTENSION OF CONTRACTS TO ALL POLITICAL SUBDIVISIONS AND AUTHORIZED DISTRICTS LOCATED IN THE STATE OF NEW YORK

- 22.1 It is the intent of this Request For Proposals that all political subdivisions, and districts located in the State of New York, be entitled to make purchases of services from the resulting contract award.
- 22.2 No officer, board or agency of a county, town, village, or school district shall make any purchase through the County when bids have been received for such purchase by such officer, board or agency, unless such purchase may be made upon the same terms, conditions and specifications at a lower price through the County.
- 22.3 All purchases shall be subject to audit by the other political subdivisions for which the purchase was made.
- 22.4 All orders will be placed by the participating entities. Each participating entity shall be billed by and make payment directly to the successful Bidder.
- 22.5 Upon request, participating entities must furnish the Contractor with the proper tax exemption certificates or documentation of tax exempt status.
- 22.6 The sole responsibility in regard to performance of the contract, or any obligation, covenant, condition or term thereunder by the successful Proposer and the participating entities will be borne and is expressly assumed by the successful Proposer and the participating entities and not by Albany County. In the event of a failure or breach in performance of any such contract by a participating entity or the successful Proposer, Albany County, specifically and expressly disclaims any and all liability for such defective performance or breach, or failure of either party to perform in accordance with its obligations, covenants and the terms and conditions of this Albany County centralized contract.

SECTION 23: INTERPRETATION

- 23.1 In the event of any discrepancy, disagreement or ambiguity among the documents which comprise this RFP, and/or, the Agreement (between the County and the successful Proposer) and its incorporated documents, the documents shall be given preference in the following order to interpret and to resolve such discrepancy, disagreement or ambiguity: 1) the Agreement; 2) the RFP; 3) the Contractor's proposal.

SECTION 24: NON APPROPRIATIONS CLAUSE

- 24.1 Notwithstanding anything contained herein to the contrary, no default shall be deemed to occur in the event no funds or insufficient funds are appropriated and budgeted by or are

otherwise unavailable to the County for payment under this Agreement. The County will immediately notify the Contractor of such occurrence and this Agreement shall terminate on the last day of the fiscal period for which appropriations were received without penalty or expense to the County of any kind whatsoever, except as to those portions herein agreed upon for which funds shall have been appropriated and budgeted.

SECTION 25: IRANIAN ENERGY SECTOR DIVESTMENT

25.1 Contractor/Proposer hereby represents that said Contractor/Proposer is in compliance with New York State General Municipal Law Section 103-g entitled "Iranian Energy Sector Divestment", in that said Contractor/Proposer has not:

(a) Provided goods or services of \$20 Million or more in the energy sector of Iran including but not limited to the provision of oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran; or

(b) Acted as a financial institution and extended \$20 Million or more in credit to another person for forty-five days or more, if that person's intent was to use the credit to provide goods or services in the energy sector in Iran.

25.2 Any Contractor/Proposer who has undertaken any of the above and is identified on a list created pursuant to Section 165-a (3)(b) of the New York State Finance Law as a person engaging in investment activities in Iran, shall not be deemed a responsible bidder pursuant to Section 103 of the New York State General Municipal Law.

25.3 Except as otherwise specifically provided herein, every Contractor/Proposer submitting a bid/proposal in response to this Request for Bids/Request for Proposals must certify and affirm the following under penalties of perjury:

(a) "By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder is not on the list created pursuant to NYS Finance Law Section 165-a (3)(b).

Albany County will accept this statement electronically in accordance with the provisions of Section 103 of the General Municipal Law.

25.4 Except as otherwise specifically provided herein, any Bid/Proposal that is submitted without having complied with subdivision (a) above, shall not be considered for award. In any case where the Bidder/Proposer cannot make the certification as set forth in subdivision (a) above, the Bidder/Proposer shall so state and shall furnish with the bid a signed statement setting forth in detail the reasons therefor. The County reserves its rights, in accordance with General Municipal Law Section 103-g to award the Bid/Proposal to any Bidder/Proposer who cannot make the certification, on a case-by-case basis under the following circumstances:

- (1) The investment activities in Iran were made before April 12, 2012, the investment activities in Iran have not been expanded or renewed after April 12, 2012, and the Bidder/Proposer has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
- (2) The County of Albany has made a determination that the goods or services are necessary for the County to perform its functions and that, absent such an exemption, the County of Albany would be unable to obtain the goods or services for which the Bid/Proposal is offered. Such determination shall be made by the County in writing and shall be a public document.

SECTION 26: SECTION NOT IN USE

SECTION 27: STORMWATER MANAGEMENT PROGRAM

27.1 Bidder understands that Albany County is a regulated entity subject to the SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-15-003), and must comply with the terms and conditions of the aforementioned Permit. Bidder further understands that under the New York State Environmental Conservation Law, it is unlawful for any person to directly or indirectly cause or contribute to a violation of water quality standards, and that Albany County adopted Local Law 7 of 2007 enabling the County to take action against any discharges that cause or contribute to a violation of water quality standards. Bidder agrees to comply with the terms and conditions of the SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-15-003) as well as Albany County Local Law No. 7 for 2007 and any Best Management Practices developed pursuant to the foregoing, as established in Albany County's Stormwater Management Program Plan. Bidder also agrees to implement any corrective actions identified by Albany County or a representative pursuant to the above regulations, and further understands that any non-compliance by the County will not diminish, eliminate, or lessen Bidder's own liability. **Awarded bidder shall execute and deliver to the County a certification statement acknowledging the above provisions prior to commencing any work (see Sheet MS4-1/Attachment "E").**

SECTION 28: SECTION NOT IN USE

COUNTY OF ALBANY

PROPOSAL FORM

PROPOSAL IDENTIFICATION:

Title: Digital Antenna System (DAS) for MVP Arena
RFP Number: 2022-149

THIS PROPOSAL IS SUBMITTED TO:

Pamela O Neill, Purchasing Agent
Albany County Department of General Services
Purchasing Division
112 State Street, Room 1000
Albany, NY 12207

1. The undersigned Proposer proposes and agrees, if this Proposal is accepted, to enter into a Contract with the owner in the form included in the Contract Documents to complete all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Proposal and in accordance with the Contract Documents.
2. Proposer accepts all of the terms and conditions of the Instructions to Proposers, including without limitation those dealing with the Disposition of Proposal Security. This Proposal may remain open for ninety (90) days after the day of Proposal opening. Proposer will sign the Contract and submit the Contract Security and other documents required by the Contract Documents within fifteen days after the date of County's Notice of Award.
3. In submitting this Proposal, Proposer represents, as more fully set forth in this Contract, that:

- (a) Proposer has examined copies of all the Contract Documents and of the following addenda: (If none, so state)

Date

Number

(receipt of all of which is hereby acknowledges) and also copies of the Notice to Proposers and the Instructions to Proposers;

- (b) Proposer has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as Proposer deems necessary;

- (c) This Proposal is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Proposer has not directly or indirectly induced or solicited any other Proposer to submit a false or sham Proposal; PROPOSER has not solicited or induced any person, firm or a corporation to refrain from Proposing; and Proposer has not sought by collusion to obtain for himself any advantage over any other Proposer or over the owner.

4. Proposer will complete the Work for the following prices(s): (Attach Proposal)
5. Proposer agrees to commence the Work within the number of calendar days or by the specific date indicated in the Contract. Proposer agrees that the Work will be completed within the number of Calendar days or by the specific date indicated in the contract.
6. The following documents are attached to and made a condition of this Proposal:
- (a) Non-Collusive Bidding Certificate (Attachment "A")
 - (b) Acknowledgment by Bidder (Attachment "B")
 - (c) Vendor Responsibility Questionnaire (Attachment "C")
 - (d) Iranian Energy Divestment Certification (Attachment "D")

7. Communication concerning this Proposal shall be addressed to:

Phone: _____

8. Terms used in this Proposal have the meanings assigned to them in the Contract and General Provisions.

COUNTY OF ALBANY

COST PROPOSAL FORM

PROPOSAL IDENTIFICATION:

Title: Digital Antenna System (DAS) for MVP Arena
RFP Number: 2022-149

COMPANY: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TEL. NO.: _____

FAX NO.: _____

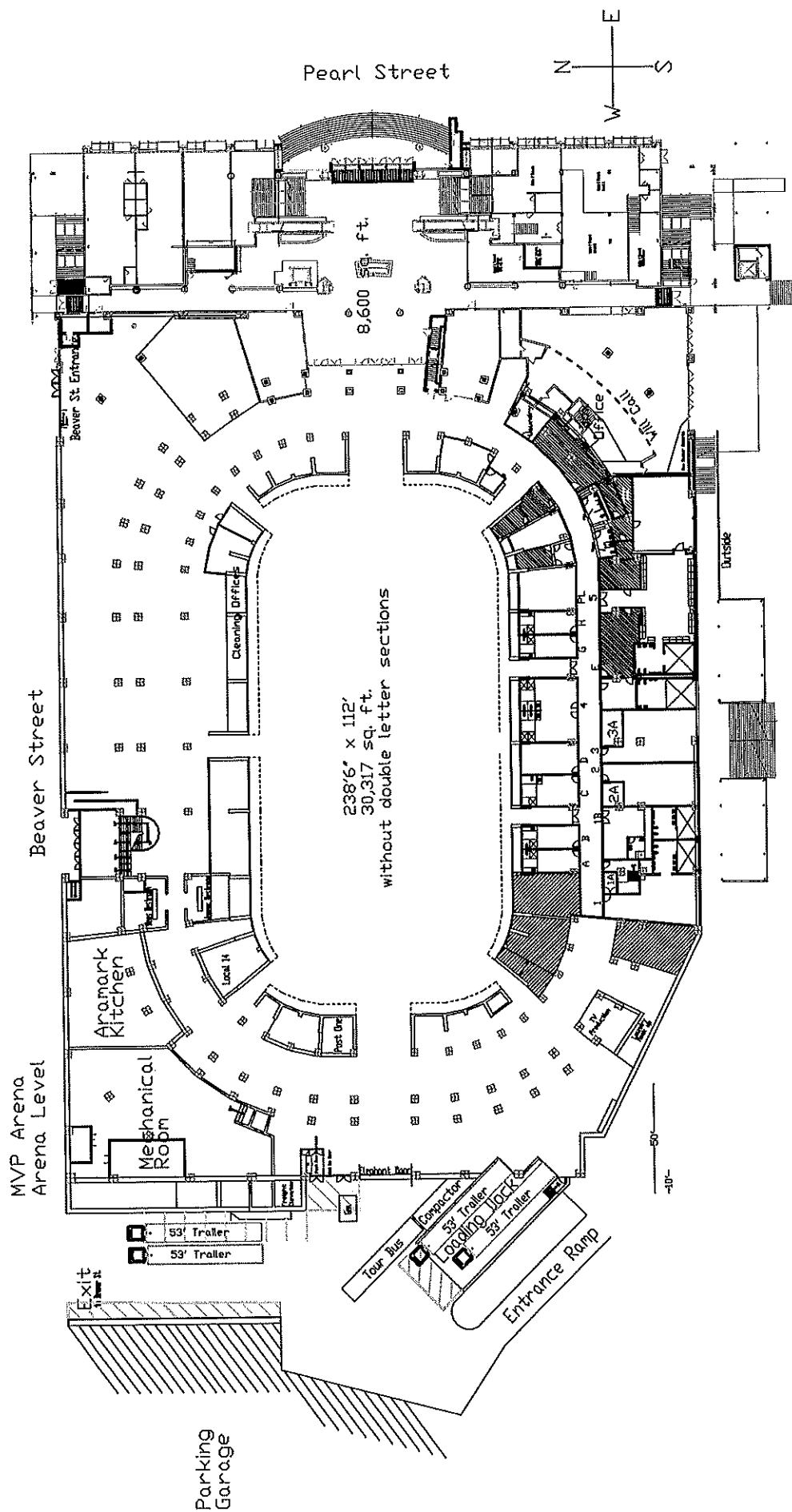
FEDERAL TAX ID NO.: _____

REPRESENTATIVE: _____

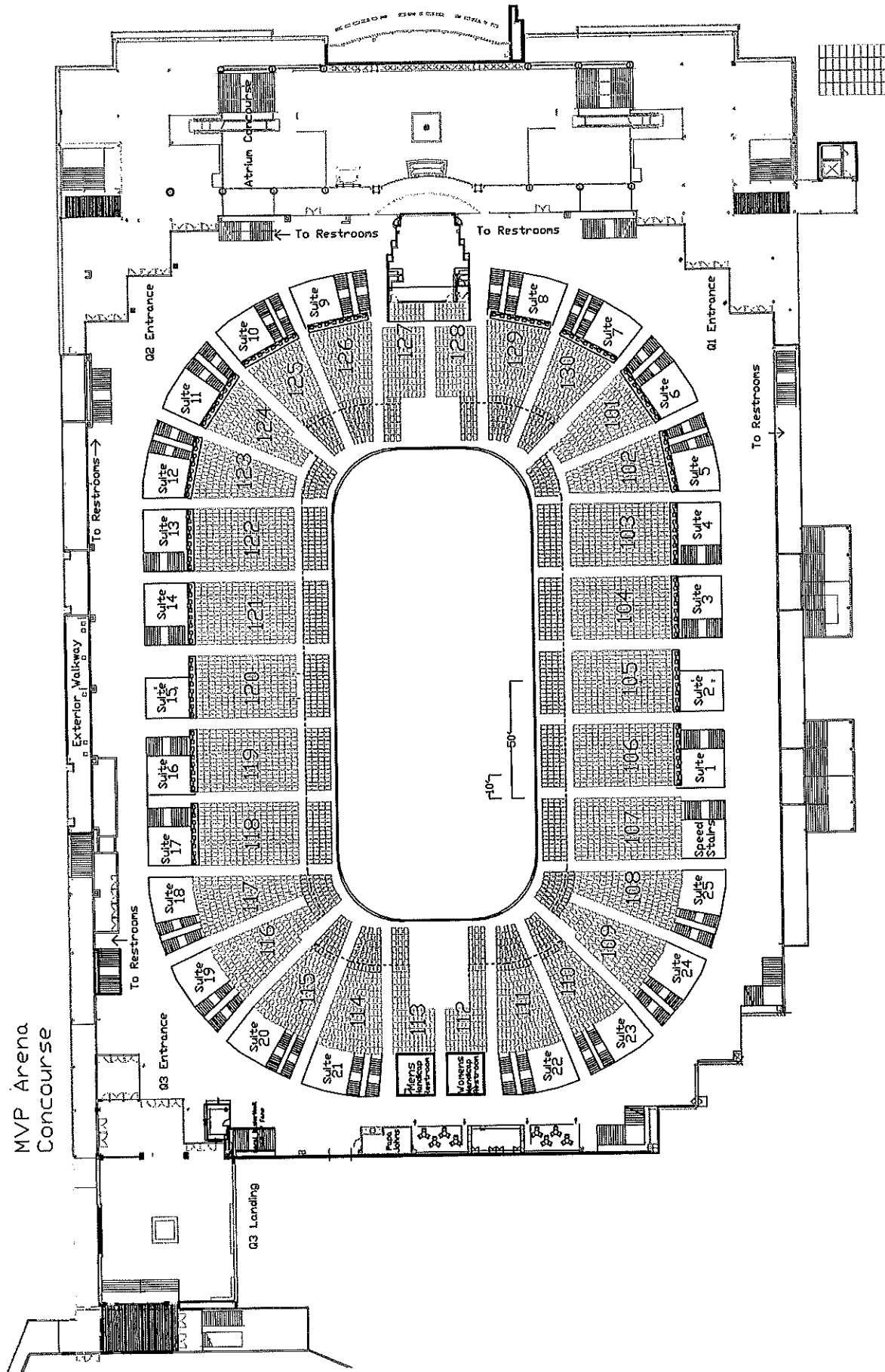
E-MAIL: _____

SIGNATURE AND TITLE _____

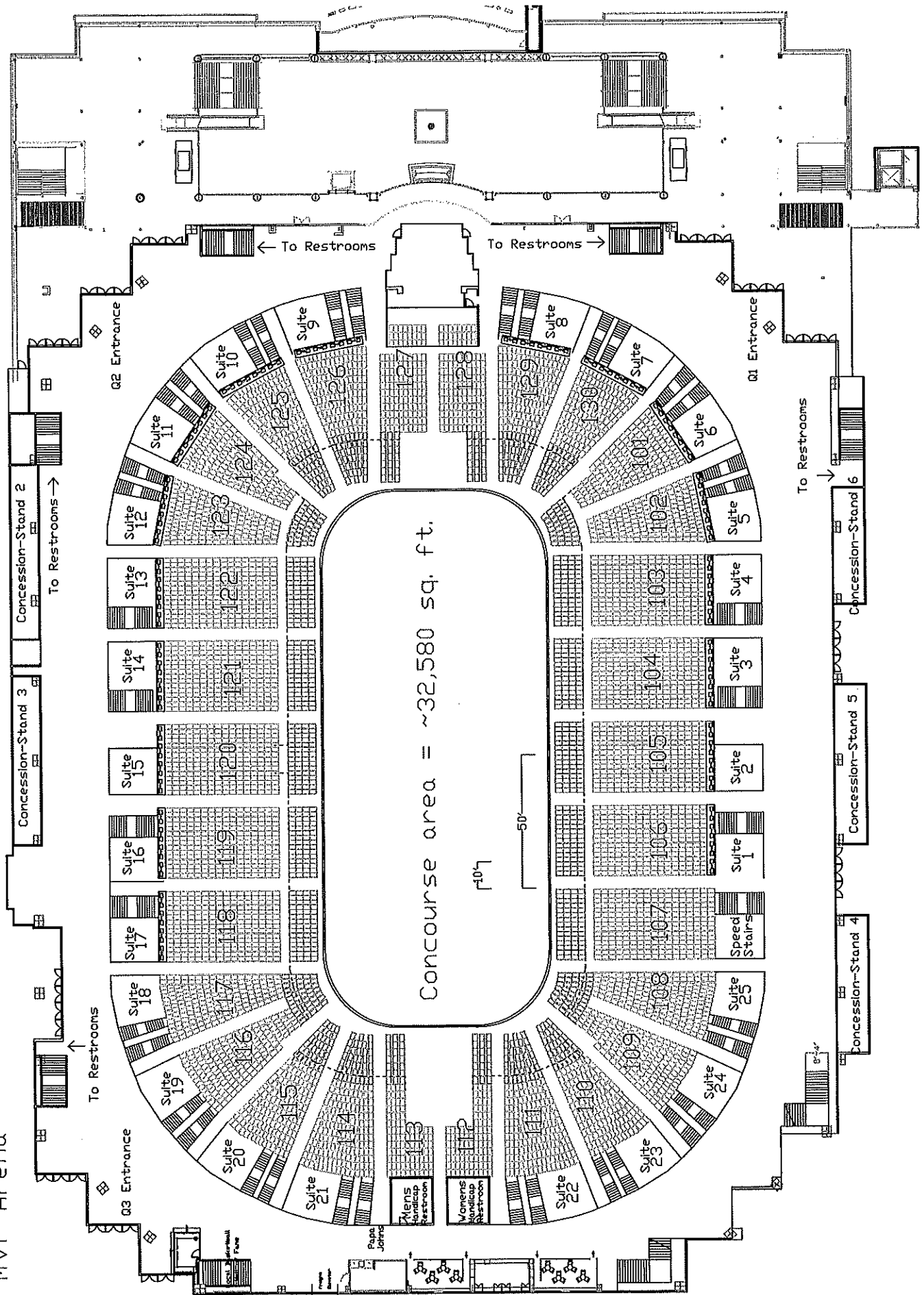
DATE _____



MVP Arena
Concourse

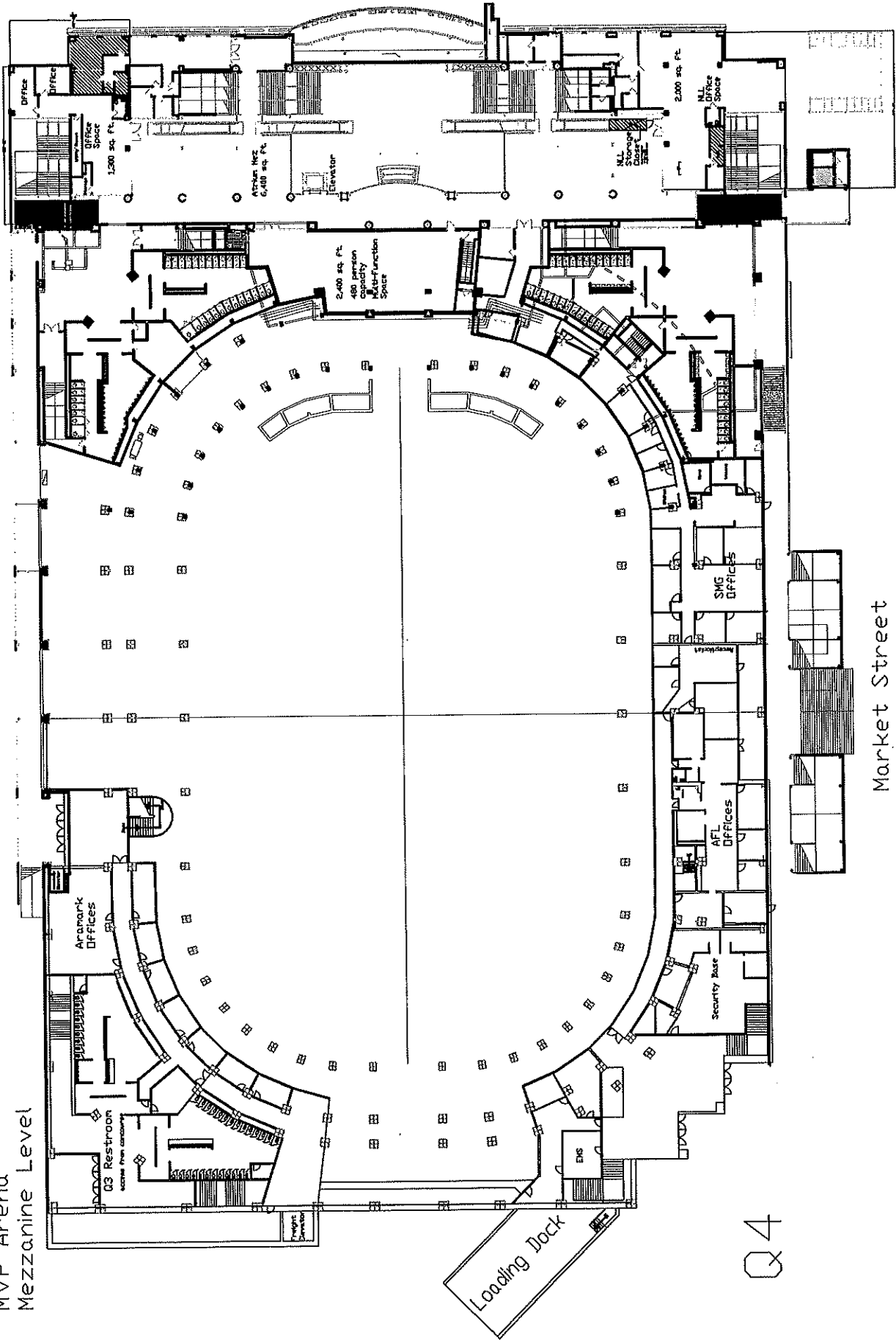


MVP Arena



Beaver Street

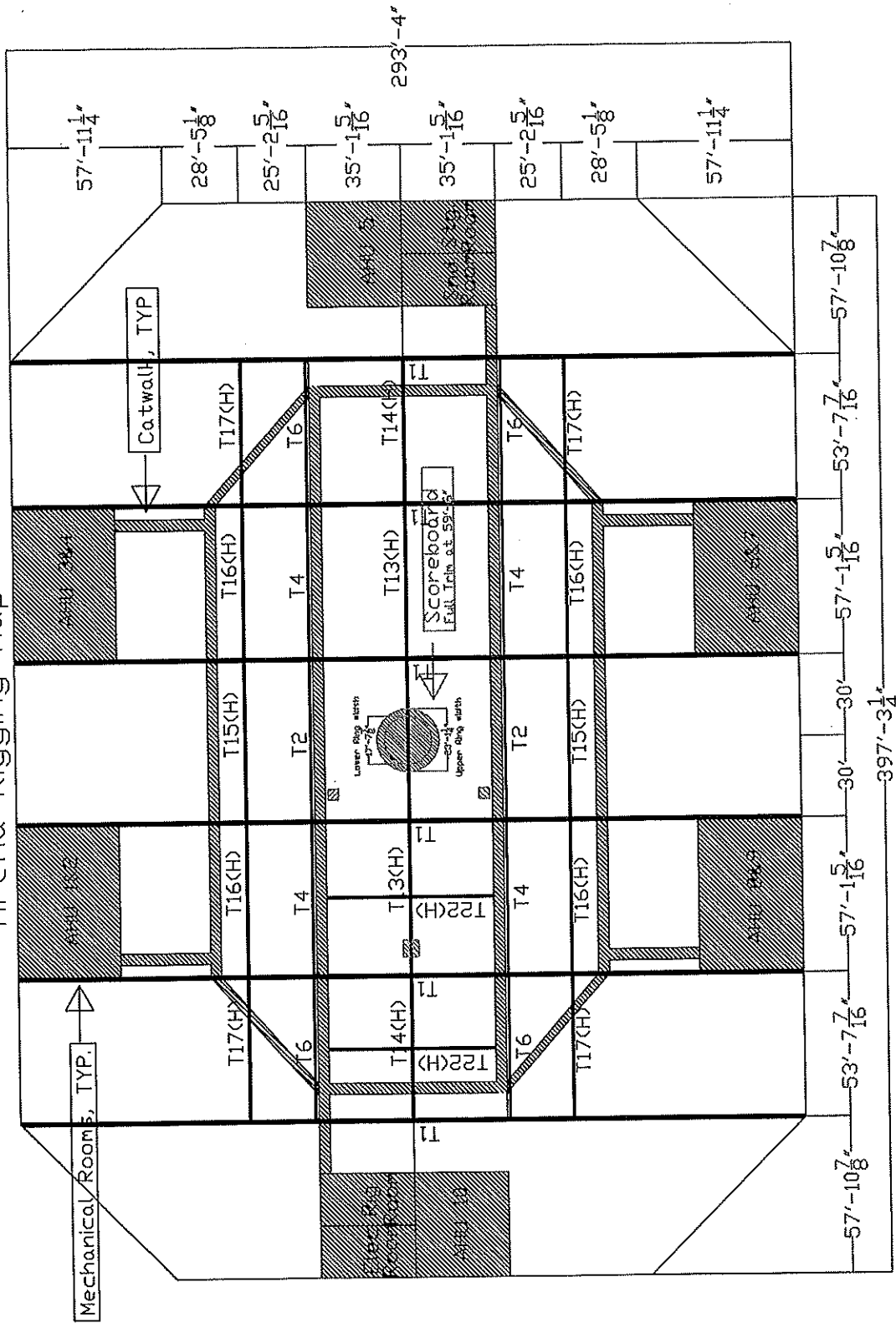
MVP Arena
Mezzanine Level



Market Street

Q4

Arena Rigging Map

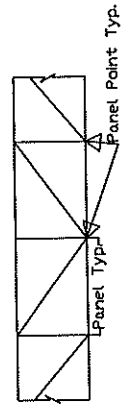


(H) = High Steel

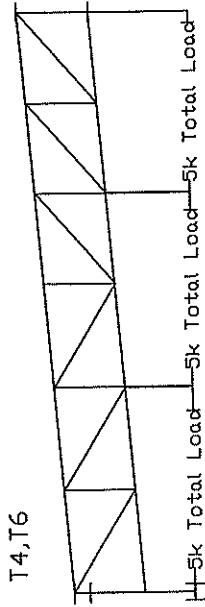
T13, T14

Truss T22

T4, T6



Sketch 'A'



Sketch 'B'

General Rigging Notes:

1. Loads shown represent rigging loads only
2. No loads shall be hung from trusses not identified on this drawing; I.E., T1, T2l Etc.
3. No loads shall be hung from truss diagonals, roof beams, bracing members or any other structural members
4. All bridled rigging; I.E., all rigging which introduces a lateral load to a truss shall be hung so that the angle is less than or equal to 90 degrees. Bridled rigging is allowed only at the trusses specified below.
5. A panel point is defined as the joint where truss members connect together. A panel is the portion of truss between panel points. See Sketch 'A' below.
6. "K" implies units in kips. One kip equals 1000 pounds

Truss Rigging Loads:

1. Truss T1 Loading: (Deep Truss, low 77', high 114')

The maximum rigging load, exclusive of rigging loads from other trusses, shall be 3k spaced at least 10' on center along the length of the truss. This 3k load may be along the top chord or bottom chord as long as the total load per panel does not exceed 9k.

In lieu of the 3k loads, 2k loads may be applied at a minimum spacing of 7' on center along the top chord or bottom chord as long as the total load per panel does not exceed 9k.

Bridled rigging is permitted at both top and bottom chords

2. Trusses T2, T4 and T6 Loadings:

The maximum rigging load, exclusive of rigging loads from truss T22, shall be a total load of 2k per panel and one 2k load applied at the center panel point. This total load may be applied at either top or bottom chord. Bridled rigging is permitted at the top chord only.

3. Trusses T13 and T14 Loading:

The maximum rigging load, exclusive of rigging loads from Truss T22, shall be one 3k load per panel point at either top or bottom chord but not both. No loading is permitted between panel points. Bridled rigging is permitted at the top chord only.

Note: No rigging Load is permitted at the panel points above the speaker hoist

4. Trusses T15, T16 and T17 Loading:

The maximum rigging load shall be one 1.2k load per panel point at either the top or bottom chord but not both. No loading is permitted between panel points. Bridled rigging is permitted at the top chord only.

5. Truss T22 Loading:

The maximum rigging load shall be 5k for each third of each T22 truss (total load per truss = 15k). See Sketch 'B' below. Loads may be applied at panel points or between panel points. Loads may be applied to the top or bottom chords. Bridled rigging is permitted at the top and bottom chord.

ATTACHMENT "A"
NON-COLLUSIVE BIDDING CERTIFICATE PURSUANT TO
SECTION 103-D OF THE NEW YORK STATE GENERAL MUNICIPAL LAW

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organizations, under penalty of perjury, that to the best of knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not knowingly been disclosed by the bidder and will not knowingly be disclosed by the bidder, directly or indirectly, prior to opening, to any bidder or to any competitor.

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

A bid shall not be considered for award nor shall any award be made where (1), (2), and (3) above have not been complied with; provided, however, that in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons thereof. Where (1), (2), and (3) above have not been complied with, the bid shall not be considered for any award nor shall any award be made unless the head of the Purchasing Unit to the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customer of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of paragraph "A" above.

B. Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, local law, and where such bid contains the certification referred to in paragraph "A" of this section, shall be deemed to have been authorized by the Board of Directors of the bidder, and such authorization shall be deemed to include the submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation

Signature

Title

Date

Company Name

ATTACHMENT "B"
ACKNOWLEDGMENT BY PROPOSER

If Individual or Individuals:

STATE OF _____)
COUNTY OF _____) SS.:

On this _____ day of _____, 20____, before me personally appeared _____ to me known and known to me to be the same person(s) described in and who executed the within instrument, and he (or they severally) acknowledged to me that he (or they) executed the same.

Notary Public, State of _____

Qualified in _____

Commission Expires _____

If Corporation:

STATE OF _____)
COUNTY OF _____) SS.:

On this _____ day of _____, 20____, before me personally appeared _____ to me known, who, being by me sworn, did say that he resides at (give address) _____; that he is the (give title) _____ of the (name of corporation) _____, the corporation described in and which executed the above instrument; that he knows the seal of the corporation, and that the seal affixed to the instrument is such corporate seal; that it was so affixed by order of the board of directors of the corporation, and that he signed his name thereto by like order.

Notary Public, State of _____

Qualified in _____

Commission Expires _____

If Partnership:

STATE OF _____)
COUNTY OF _____) SS.:

On the _____ day of _____, 20____, before me personally came _____, to me known to be the individual who executed the foregoing, and who, being duly sworn, did depose and say that he / she is a partner of the firm of _____ and that he / she has the authority to sign the same, and acknowledged that he / she executed the same as the act and deed of said partnership.

Notary Public, State of _____

Qualified in _____

Commission Expires _____

ATTACHMENT "C"
ALBANY COUNTY
VENDOR RESPONSIBILITY QUESTIONNAIRE

1. VENDOR IS: <input type="checkbox"/> PRIME CONTRACTOR			
2. VENDOR'S LEGAL BUSINESS NAME		3. IDENTIFICATION NUMBERS a) FEIN # b) DUNS #	
4. D/B/A – Doing Business As (if applicable) & COUNTY FIELD:		5. WEBSITE ADDRESS (if applicable)	
6. ADDRESS OF PRIMARY PLACE OF BUSINESS/EXECUTIVE OFFICE		7. TELEPHONE NUMBER	8. FAX NUMBER
9. ADDRESS OF PRIMARY PLACE OF BUSINESS/EXECUTIVE OFFICE <i>IN NEW YORK STATE, if different from above</i>		10. TELEPHONE NUMBER	11. FAX NUMBER
12. AUTHORIZED CONTACT FOR THIS QUESTIONNAIRE Name Title Telephone Number Fax Number e-mail			
13. LIST ALL OF THE VENDOR'S PRINCIPAL OWNERS.			
a) NAME	TITLE	b) NAME	TITLE
c) NAME	TITLE	d) NAME	TITLE
A DETAILED EXPLANATION IS REQUIRED FOR EACH QUESTION ANSWERED WITH A "YES," AND MUST BE PROVIDED AS AN ATTACHMENT TO THE COMPLETED QUESTIONNAIRE. YOU MUST PROVIDE ADEQUATE DETAILS OR DOCUMENTS TO AID THE COUNTY IN MAKING A DETERMINATION OF VENDOR RESPONSIBILITY. PLEASE NUMBER EACH RESPONSE TO MATCH THE QUESTION NUMBER.			
14. DOES THE VENDOR USE, OR HAS IT USED IN THE PAST FIVE (5) YEARS, ANY OTHER BUSINESS NAME, FEIN, or D/B/A OTHER THAN THOSE LISTED IN ITEMS 2-4 ABOVE? List all other business name(s), Federal Employer Identification Number(s) or any D/B/A names and the dates that these names or numbers were/are in use. Explain the relationship to the vendor. <input type="checkbox"/> Yes <input type="checkbox"/> No 			
15. ARE THERE ANY INDIVIDUALS NOW SERVING IN A MANAGERIAL OR CONSULTING CAPACITY TO THE VENDOR, INCLUDING PRINCIPAL OWNERS AND OFFICERS, WHO NOW SERVE OR IN THE PAST ONE (1) YEARS HAVE SERVED AS: <div style="margin-top: 10px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> a) An elected or appointed public official or officer? <i>List each individual's name, business title, the name of the organization and position elected or appointed to, and dates of service</i> </div> <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div> </div> <div style="margin-top: 10px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> b) An officer of any political party organization in Albany County, whether paid or unpaid? <i>List each individual's name, business title or consulting capacity and the official political position held with applicable service dates.</i> </div> <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div> </div> </div> </div>			

16.	<p>WITHIN THE PAST (5) YEARS, HAS THE VENDOR, ANY INDIVIDUALS SERVING IN MANAGERIAL OR CONSULTING CAPACITY, PRINCIPAL OWNERS, OFFICERS, MAJOR STOCKHOLDER(S) (10% OR MORE OF THE VOTING SHARES FOR PUBLICLY TRADED COMPANIES, 25% OR MORE OF THE SHARES FOR ALL OTHER COMPANIES), AFFILIATE OR ANY PERSON INVOLVED IN THE BIDDING OR CONTRACTING PROCESS:</p>	
a)	<ol style="list-style-type: none"> 1. been suspended, debarred or terminated by a local, state or federal authority in connection with a contract or contracting process; 2. been disqualified for cause as a bidder on any permit, license, concession franchise or lease; 3. entered into an agreement to a voluntary exclusion from bidding/contracting; 4. had a bid rejected on an Albany County contract for failure to comply with the MacBride Fair Employment Principles; 5. had a low bid rejected on a local, state or federal contract for failure to meet statutory affirmative action or M/WBE requirements on a previously held contract; 6. had status as a Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise, de-certified, revoked or forfeited; 7. been subject to an administrative proceeding or civil action seeking specific performance or restitution in connection with any local, state or federal government contract; 8. been denied an award of a local, state or federal government contract, had a contract suspended or had a contract terminated for non-responsibility; or 9. had a local, state or federal government contract suspended or terminated for cause prior to the completion of the term of the contract. 	<input type="checkbox"/> Yes <input type="checkbox"/> No
b)	<p>been indicted, convicted, received a judgment against them or a grant of immunity for any business-related conduct constituting a crime under local, state or federal law including but not limited to, fraud extortion, bribery, racketeering, price-fixing, bid collusion or any crime related to truthfulness and/or business conduct?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
c)	<p>been issued a citation, notice, violation order, or are pending an administrative hearing or proceeding or determination of violations of:</p> <ol style="list-style-type: none"> 1. federal, state or local health laws, rules or regulations. 	<input type="checkbox"/> Yes <input type="checkbox"/> No
17.	<p>IN THE PAST THREE (3) YEARS, HAS THE VENDOR OR ITS AFFILIATES ¹ HAD ANY CLAIMS, JUDGMENTS, INJUNCTIONS, LIENS, FINES OR PENALTIES SECURED BY ANY GOVERNMENTAL AGENCY? Indicate if this is applicable to the submitting vendor or affiliate. State whether the situation(s) was a claim, judgment, injunction, lien or other with an explanation. Provide the name(s) and address(es) of the agency, the amount of the original obligation and outstanding balance. If any of these items are open, unsatisfied, indicate the status of each item as "open" or "unsatisfied."</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
18.	<p>DURING THE PAST THREE (3) YEARS, HAS THE VENDOR FAILED TO:</p>	
a)	<p>file returns or pay any applicable federal, state or city taxes? <i>Identify the taxing jurisdiction, type of tax, liability year(s), and tax liability amount the vendor failed to file/pay and the current status of the liability.</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
b)	<p>file returns or pay New York State unemployment insurance? <i>Indicate the years the vendor failed to file/pay the insurance and the current status of the liability.</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
c)	<p>Property Tax <i>Indicate the years the vendor failed to file.</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
19.	<p>HAVE ANY BANKRUPTCY PROCEEDINGS BEEN INITIATED BY OR AGAINST THE VENDOR OR ITS AFFILIATES ¹ WITHIN THE PAST SEVEN (7) YEARS (WHETHER OR NOT CLOSED) OR IS ANY BANKRUPTCY PROCEEDING PENDING BY OR AGAINST THE VENDOR OR ITS AFFILIATES REGARDLESS OF THE DATE OF FILING? Indicate if this is applicable to the submitting vendor or affiliate. If it is an affiliate, include the affiliate's name and FEIN. Provide the court name, address and docket number. Indicate if the proceedings have been initiated, remain pending or have been closed. If closed, provide the date closed.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
20.	<p>IS THE VENDOR CURRENTLY INSOLVENT, OR DOES VENDOR CURRENTLY HAVE REASON TO BELIEVE THAT AN INVOLUNTARY BANKRUPTCY PROCEEDING MAY BE BROUGHT AGAINST IT? Provide financial information to support the vendor's current position, for example, Current Ratio, Debt Ratio, Age of Accounts Payable, Cash Flow and any documents that will provide the agency with an understanding of the vendor's situation.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

21.	IN THE PAST FIVE (5) YEARS, HAS THE VENDOR OR ANY AFFILIATES ¹ :	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	a) defaulted or been terminated on, or had its surety called upon to complete, any contract (public or private) awarded;		
Indicate if this is applicable to the submitting vendor or affiliate. Detail the situation(s) that gave rise to the negative action, any corrective action taken by the vendor and the name of the contracting agency.			

1 "Affiliate" meaning: (a) any entity in which the vendor owns more than 50% of the voting stock; (b) any individual, entity or group of principal owners or officers who own more than 50% of the voting stock of the vendor; or (c) any entity whose voting stock is more than 50% owned by the same individual, entity or group described in clause (b). In addition, if a vendor owns less than 50% of the voting stock of another entity, but directs or has the right to direct such entity's daily operations, that entity will be an "affiliate" for purposes of this questionnaire.

**ALBANY COUNTY
VENDOR RESPONSIBILITY QUESTIONNAIRE**

FEIN #

State of:)
) ss:
County of:)

CERTIFICATION:

The undersigned; recognizes that this questionnaire is submitted for the express purpose of assisting the County of Albany in making a determination regarding an award of contract or approval of a subcontract; acknowledges that the County may in its discretion, by means which it may choose, verify the truth and accuracy of all statements made herein; acknowledges that intentional submission of false or misleading information may constitute a felony under Penal Law Section 210.40 or a misdemeanor under Penal Law Section 210.35 or Section 210.45, and may also be punishable by a fine and/or imprisonment of up to five years under 18 USC Section 1001 and may result in contract termination; and states that the information submitted in this questionnaire and any attached pages is true, accurate and complete.

The undersigned certifies that he/she:

- Has not altered the content of the questions in the questionnaire in any manner;
- Has read and understands all of the items contained in the questionnaire and any pages attached by the submitting vendor;
- Has supplied full and complete responses to each item therein to the best of his/her knowledge, information ad belief;
- Is knowledgeable about the submitting vendor's business and operations;
- Understands that Albany County will rely on the information supplied in the questionnaire when entering into a contract with the vendor;
- Is under duty to notify the Albany County Purchasing Division of any material changes to the vendor's responses.

Name of Business

Signature of Owner _____

Address

Printed Name of Signatory _____

City, State, Zip

Title

Sworn before me this _____ day of _____, 20__;

Notary Public

Printed Name

Signature

Date

Attachment "D"
Certification Pursuant to Section 103-g
Of the New York State
General Municipal Law

- A. By submission of this bid/proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the New York State Finance Law.
- B. A Bid/Proposal shall not be considered for award, nor shall any award be made where the condition set forth in Paragraph A above has not been complied with; provided, however, that in any case the bidder/proposer cannot make the foregoing certification set forth in Paragraph A above, the bidder/proposer shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefor. Where Paragraph A above cannot be complied with, the Purchasing Unit to the political subdivision, public department, agency or official thereof to which the bid/proposal is made, or his designee, may award a bid/proposal, on a case by case business under the following circumstances:
1. The investment activities in Iran were made before April 12, 2012, the investment activities in Iran have not been expanded or renewed after April 12, 2012, and the Bidder/Proposer has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
 2. The political subdivision makes a determination that the goods or services are necessary for the political subdivision to perform its functions and that, absent such an exemption, the political subdivision would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.

Signature

Title

Date

Company Name

Sheet MS4-1: Bidder/Proposer Certification Statement (to be used with Section 34 Part A – General Contracts)

As a bidder seeking to provide services on behalf of Albany County, I certify under penalty of law that I understand and agree to comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4 Permit) and Albany County Local Law 7 of 2007, and agree to implement any Best Management Practices or corrective actions identified by Albany County or an authorized representative thereof as necessary to maintain compliance. I understand that Albany County must comply with the terms and conditions of the aforementioned MS4 Permit, and that it is unlawful for any person to directly or indirectly cause or contribute to a violation of water quality standards. I am also aware that County Local Law 7 of 2007 prohibits any activities that cause or contribute to a violation of the County's SPDES permit. Further, I understand that any non-compliance by Albany County will not diminish, eliminate or lessen my own liability.

Name of Third Party Entity: _____

Address: _____

Phone Number(s): _____

Description of activities to be performed by your firm or organization within Albany County are related to the Albany County Storm Water Management Program (SWMP) (include any activities that have the potential to generate or prevent pollution and/or affect water quality):

Description of where the work is to be performed within Albany County facilities:

Signature

Printed Name

Title

Date