SUBJECT: CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT AT TIAA BANK FIELD

BID #: ESC-0309-22

OPEN DATE: 2022-02-02

COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT: COMPETITIVE SEALED PROPOSAL SUPPLY CONTRACT – PERIOD OF SERVICE WILL COMMENCE UPON EXECUTION OF CONTRACT AND WILL CONTINUE UNTIL PROJECT COMPLETION.

AGENCY: SMG JACKSONVILLE

BASIS OF AWARD: HIGHEST SCORING RESPONSIVE, RESPONSIBLE BIDDER BASED ON THE EVALUATION CRITERIA

NUMBER OF BIDS INVITED: 37 **NUMBER RECEIVED:** 1 **OTHER:** 0

SUMMARY OF BIDS AND RECOMMENDED ACTIONS:
Recommend approval to enter into negotiations with the only highest scoring responsive, responsible bidder Alpha Video and Audio, Inc. for CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT AT TIAA BANK FIELD, in an effort bring the bid within available allocated funds under Procurement Code Section 126.201(d)(4)-Negotiations.

The bidder Alpha Video and Audio, Inc. have 100 total scoring points.

Attachments: Recommendation Memo, Bid Tabulation Sheet, Scoring Matrix, Description of Services and Deliverables

Analyst: _____
RUBEN OLA

RESPECTFULLY SUBMITTED: _____
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: William T. Caverly, Director of Operations, ASM Jacksonville

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(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)
ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING _____ MEMBERS DISAPPROVING _____ DATE: _____

_____ _____ OTHER: _____

_____ _____

_____ _____

_____ _____

_____ _____

_____

ACTION OF AWARDING AUTHORITY DATE _____

APPROVED _____ DISAPPROVED _____

OTHER _____

SIGNATURE OF AUTHENTICATION _____

From: William T. Caverly
Director of Operations, ASM Jacksonville
300 A. Philip Randolph Blvd
Jacksonville FL. 32202
bcaverly@asmjax.com

To: Gregory Pease
Chief of Procurement
214 Hogan St. Ste. 800
Jacksonville FL 32202
GPease@coj.net

Mr. Pease,

ASM Jacksonville is requesting the approval to negotiate with Alpha Video and Audio INC., the only qualifying bidder for ESC-0309-22, before the bid is awarded. The final bid amount is roughly 28% higher that the budget for this project and ASM is confident that there is room for movement in the final price. Two Items that have been identified as targets for negotiating are 1) The second-year warranty costs ($200,000) that may be deferred to FY '23 and 2) Credit for already purchased software licensing ($100,000) that is not reflected in the bid. ASM will also take the opportunity to negotiate a higher-than-expected labor cost associated with the bid. This is a time sensitive matter and delay will be detrimental to the overall timeline of the project.

Thank you for considering this request,

2/7/2022

William T Caverly, DO ASM Jacksonville

BID TABULATION SHEET

TITLE: CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT AT TIAA BANK FIELD BID NO: ESC-0309-22 OPEN DATE: 02/02/22 PURCHASING ANALYST: RUBEN OLA NO. INVITED: (37) No. Received: (1) No Bids: (0) RECORDED BY: M. PIERCE, BID ANNOUNCER: M. LAIDLER			ALPHA VIDEO & AUDIO, INC.			
Item No. 1 - Contractor to provide all labor, materials, equipment, software, hardware, tools of trade, supervision, and transportation for the completion and installation of CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT AT TIAA BANK FIELD as per scope of work, specifications, plans and drawings. (See Section 4)			$1,876,500.28			
		TOTAL PRICE	$1,876,500.28			
ITEM NO.	DESCRIPTION (Attachment B-Evaluation Criteria)	POINTS				
1	Form 1 –LUMP SUM PRICE/PRICE SHEET (The contractor submitting the lowest cost to the City shall receive the maximum number of points for cost, 40 points. Each subsequentially higher cost shall be divided into the lowest cost received and the products score % will be multiplied by the maximum points available to render the points.) Score = (Lowest Bid/The Bid) X 40)	40	40.00			
2	Form 3 – Business/Corporate References (more NFL/MLB integrations receive a higher score))	10	10.00			
3	Project Plan & Timeline Meet the Requirements (see Section 4)	20	20.00			
4	Project Resource Resume & Qualifications (see Section 1.4, Item 1)	10	10.00			
5	Presentation of system design and functionality (ease of use and vision)	20	20.00			
	Total Points	100	100.00			
	Minimum Requirements:					
	Performance Bond:					
	Conflict of Interest:		✓			
	Addendums (1,2):		✓			
	COMMENTS:					

SCORING MATRIX - (EVALUATION CRITERIA)

ESC-0309-22 CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT AT TIAA BANK FIELD

TOTAL POINTS	40 Points	10 Points	20 Points	10 Points	20 Points	OVERALL	Rank
CRITERIA	Form 1 –LUMP SUM PRICE/PRICE SHEET (The contractor submitting the lowest cost to the City shall receive the maximum number of points for cost, 40 points. Each subsequentially higher cost shall be divided into the lowest cost received and the products score % will be multiplied by the maximum points available to render the points.) Score = (Lowest Bid/The Bid) X 40)	Form 3 – Business/Corporate References (more NFL/MLB integrations receive a higher score))	Project Plan & Timeline Meet the Requirements (see Section 4)	Project Resource Resume & Qualifications (see Section 1.4, Item 1)	Presentation of system design and functionality (ease of use and vision)	TOTAL POINTS (100)	
ALPHA VIDEO & AUDIO, INC.							
Reviewer 1: CARLOS CACERES	40.00	10.00	20.00	10.00	20.00	100.00	1.00
Reviewer 2: CHRIS WILLIAMS	40.00	10.00	20.00	10.00	20.00	100.00	1.00
Reviewer 3: WILLIAM CAVERLY	40.00	10.00	20.00	10.00	20.00	100.00	1.00
Average	40.00	10.00	20.00	100.00	20.00	100.00	1

REQUEST FOR PROPOSAL

CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT AT TIAA BANK FIELD

For

City of Jacksonville, Florida

SECTION 1
(Specific Information Regarding this RFP)

1.1 Introduction

The City of Jacksonville ("**Buyer**") intends to hire an individual or firm ("**Contractor**") to provide the services described in Section 1.2 of this Request for Proposal ("**RFP**"). Persons interested in submitting a response to this RFP (a "**Response**") should carefully review this RFP for instructions on how to respond and for the applicable contractual terms. This RFP is divided into the following sections:

Section 1	Specific Information Regarding This RFP
Section 2	General Instructions
Section 3	General Terms and Conditions of Agreement
Section 4	Description of Services (if referenced in Section 1.2 below)
Attachment A	Response Format
Attachment B	Evaluation Criteria
Attachment C	Equal Business Opportunity Program Requirements (JSEB Form 1-4)
Attachment D	Service Contract
Attachment E	Disqualified/Probationary Vendors List
Attachment F	Indemnification
Attachment G	Insurance Requirements
Attachment H	Protest Procedures
Attachment I	Performance Bond and Payment Bond
Form 1	Price Sheet
Form 2	Conflict of Interest Certificate
Form 3	Business/Corporate References
Form 4	No Bid Survey

In the event of conflicting provisions, the following sections of this RFP will have priority in the order listed: Section 1, Section 4, Section 2, Section 3, the Attachments, and the Forms.

1.2 Scope of Services.

The services sought under this RFP are generally described as follows: The SMG Jacksonville is requesting proposals to purchase all installation labor, materials, tools, transportation services, supervision, coordination, etc., necessary to complete the installation of the Content Management Solution and video production, as described in these specifications and illustrated on the associated drawings. The systems shall be called the "CMS" and the installer the "CMS Installer".

The work specified herein is performance based. This requires the Installer to provide all subsequent design and engineering (e.g. one lines, etc.), which is not included within the Contract Documents, to meet the requirements of this Performance Specification. The installer is responsible for providing all components necessary for a complete and operational system. Any system changes or revisions necessary to make the system conform to the displays, shall be included at time of

proposal and installed without claims for additional compensation. See reference Section 4 Description of Services/Scope of Work.

1.3 **Term of Agreement.**
The term of the agreement will commence upon execution of the Contract and will continue until the project has been successfully completed and accepted by the SMG Project Manager or designee.

1.4 **Minimum Requirements for Contractors.**
Contractors must satisfy the following mandatory minimum requirements in order to have their Responses evaluated. By submitting a Response, Contractor warrants and represents that it satisfies these requirements. Failure to meet these requirements will result in the Response not being evaluated and being rejected as non-responsive:

1. Contractor must provide resume and qualifications of the resource(s) that will be used for the project.
2. Contractor to provide information of at least five (5) years' experience with equipment and systems of the specified types.
3. Experience with at least two (2) comparable scale MLB or NFL stadiums new construction or renovation projects within the last three (3) years.
4. The Contractor must provide a minimum of three (3) contactable references of installed systems similar in scope (see Form 3 – Business/Corporate References). The City reserves the right to contact references. Government references are encouraged. Provide reference information including but not limited to:
    i. Customer Contact Name, Phone Number, and Title
    ii. Organization Name and Address
    iii. Industry
    iv. Briefly describe the nature of the CMS & Video Production services provided, including the size of the project.

1.5 **Equal Business Opportunity Program.**
It is an official policy of the City of Jacksonville to encourage the maximum participation of Jacksonville Small and Emerging Businesses (JSEBs) in its contract awards based upon availability. To participate as a JSEB on Buyer projects, a company must be certified as a JSEB with the City's Equal Business Opportunity Office.

This RFP and the resulting Contract are subject to requirements of the "Encouragement Plan," which is fully described on Attachment C to this RFP.

Contractors may contact Buyer's Equal Business Opportunity Office at 904-255-8840 or find the JSEB directory on Buyer's website. Please contact the Contact Person identified in Section 1.12 if you are uncertain of Buyer's website address or if you experience problems accessing it.

1.6 **Documents Available for Inspection.**
Documents will be made available for inspection at the Pre-Proposal Meeting as per Section 1.8.

1.7 **Federal Funds.**
Federal funds will not be used as part of this solicitation.

1.8 **Pre-Proposal Meeting and Mandatory Walk-Through.**
There will be a mandatory pre-proposal meeting scheduled for this RFP on Jan. 20, 2022, at 9:00 am, located at Gate 3 Security Entrance, 1 TIAA Bank Field Dr., Jacksonville, Florida 32202.

1.9 **Response Due Date.**
The deadline for submitting responses to this RFP is 2/2/2022 at 2:00 p.m. ET. Please see Sections 2.3 and 2.4 for more details.

3) One (1) digital scanned copy (in pdf format) of entire Response, on a separate CD-ROM or flash drive. Large files may be scanned as several separate PDF files.

All copies are to be placed in a sealed package. The outside must be marked with (i) the RFP title and number, and (ii) Contractor's name, address, contact person, and telephone number.

It is the sole responsibility of each Contractor to assure all copies are EXACT duplicates of the original Response. Photocopies or CD copies will be used for the purpose of evaluating the Responses. Any information contained in the original Response which has not been transferred to the CDs or photocopies will NOT be considered. The original document will be used solely for official record keeping and auditing purposes.

2.5 Evaluation of Responses.

A. Buyer will determine the qualifications, interest and availability of Contractors by reviewing all Responses and, when deemed necessary in the sole discretion of Buyer, by conducting formal interviews of selected Contractors.

B. Before making an award, Buyer reserves the right to seek clarifications, revisions, and information it deems necessary for the proper evaluation of Responses. Failure to provide any requested clarifications, revisions or information may result in rejection of the Response.

C. Buyer reserves the right to accept or reject any and all Responses, or separable portions thereof, and to waive any minor irregularity, technicality, or omission if Buyer determines that doing so will serve Buyer's best interests. Buyer may reject any Response not submitted in the manner specified by the RFP.

2.6 Award of Contract.

A. The process for contract award is set forth in Jacksonville Ordinance Code Sections 126.204. Generally, Buyer will award the Contract to the responsible and responsive proposer whose Response is determined in writing to be the most advantageous to the City of Jacksonville, based solely on the relative importance assigned to price and of the criteria set forth in Attachment B. The award may be contingent on the outcome of direct negotiations under Section 126.201(d)(4) and 126.201(n), *Ordinance Code*. If an agreement cannot be reached with the highest ranked Contractor, Buyer reserves the right to make an award to the next highest ranked Contractor or subsequent Contractor(s) until an agreement is reached.

B. Buyer may make an award within sixty (60) days after the date of the Responses are due, during which period the Responses shall remain firm and shall not be withdrawn. Any Response that expresses a shorter duration may, in Buyer's sole discretion, be accepted or rejected. If award is not made within sixty (60) days, the Response shall remain firm until either the Contract is awarded or Buyer receives from Contractor written notice that the Response is withdrawn. [Note: Withdrawal of a Response may be requested within 72 hours (excluding State holidays, Saturdays and Sundays) after the date and time Responses are due. Buyer will not accept an amended Response after the date and time Responses are due.]

C. Except as may otherwise be expressly set forth in the RFP, Buyer intends to award one contract, but reserves the right to enter into a contract with multiple Contractors or to reject all Responses.

D. Based on the evaluation results, Buyer shall electronically post a notice of intended award at Buyer's website. Please contact the Contact Person if you are uncertain of Buyer's website address or if you experience problems accessing it. Any person who is adversely affected by the decision shall file with Buyer a notice of protest in accordance with the Protest provisions of the RFP. Buyer does not intend to provide tabulations or notices of award by telephone.

2.7 **Terms of Agreement**. After award to the successful Contractor, Buyer and Contractor will promptly enter into a written agreement (the "Contract") incorporating the terms of the RFP, the successful Response, and other terms and conditions as may be agreed to between the parties. To the extent the Response contains exceptions to or modifications of the RFP, such exceptions or modifications are stricken unless Buyer affirmatively accepts the exceptions or modifications in the Contract. The Contract will be substantially in the form set forth in an attachment to the RFP. Buyer will not be obligated to pay Contractor for the RFP services until the Contract is signed by both parties. Buyer retains the right to reject all bids and/or amend its notice of award at any time prior to the full execution of the Contract.

If the successful Contractor fails to perform the Services as agreed, Buyer reserves the right to (i) issue a new solicitation for the Services; (ii) reopen the RFP for the purpose of awarding a second contract to another Contractor in accordance with the criteria and processes set forth herein; and/or (iii) take such other actions permitted by law.

2.8 **Public Meetings and Special Accommodations**. Any meetings of the RFP evaluation committee (i.e., the Competitive Sealed Proposal Evaluation Committee), shall be noticed on Buyer's website and shall comply with Florida's Open Meetings Laws. Please contact the Contact Person if you are uncertain of Buyer's website address or if you experience problems accessing it. Persons requiring a special accommodation because of a disability should contact the Contact Person identified in Section 1 at least forty-eight (48) hours prior to the meeting.

2.9 **Ex-Parte Communications**. Communications regarding the RFP by a potential vendor, service provider, bidder, lobbyist or consultant to city employees, staff, or hired consultants are prohibited. This prohibition includes communications with the Buyer's Office of General Counsel unless the Contact Person has authorized those communications in advance. Violations may result in the rejection/disqualification of a Response.

These prohibitions on ex-parte communications do not apply to the following:

- communications regarding the RFP to the Chief of the Procurement Division or the Contact Person, provided the communication is limited strictly to matters of process or procedure already contained in the RFP.
- communications with the city employee responsible for administering the Jacksonville Small Emerging Business Program, provided the communication is limited strictly to matters of programmatic process or procedures.
- communications at any pre-proposal conferences.
- communications with the Office of Inspector General and his/her staff regarding any perceived inefficiency, misconduct or abuse by City employees.
- presentations before publicly noticed committee meetings.
- contract negotiations during any duly noticed public meeting.
- any duly noticed site visits to determine competency of contractors during the period between RFP opening and issuance of the Chief of Procurement Division's written recommendation.

Section 4
Description of Services and Deliverables

4.1.0 Background and Scope of Services

The City of Jacksonville for SMG Jacksonville is currently accepting bids to obtain source(s) of supply for the item(s) / service(s) as outlined in the bid documents provided. The purpose of this bid invitation is to obtain information about your firm, its ability to provide these items, and to obtain pricing commitments for the purchase and installation of Content Management Solution and Video Production Replacement at TIAA Bank Field.

1.1 Scope of Work

SECTION 11 63 55 – CONTENT MANAGEMENT SOLUTION AND VIDEO PRODUCTION REPLACEMENT

PART 1 – GENERAL

A. Work under this Contract includes all installation labor, materials, tools, transportation services, supervision, coordination, etc., necessary to complete the installation of the Content Management Solution and video production, as described in these specifications and illustrated on the associated drawings. The systems shall be called the "CMS" and the installer the "CMS Installer".

B. The work specified herein is performance based. This requires the Installer to provide all subsequent design and engineering (e.g. one lines, etc.), which is not included within the Contract Documents, to meet the requirements of this Performance Specification. The installer is responsible for providing all components necessary for a complete and operational system. Any system changes or revisions necessary to make the system conform to the displays, shall be included at time of proposal and installed without claims for additional compensation.

C. The drawings included with this specification convey general system concepts.

D. The Content Management System include the following major items:

1. Demolition of existing content management solution

   a. Removal of control components within the Video Rack Room. This will include Content Playback devices as well any composting processors upstream of display processors.

2. Maintenance and support of existing display processor(s) for each display. This will include existing or updated control computers.

3. Maintenance of existing scoring and timing distribution, which include Back of House Locker Room Game Clocks as well as content management processing.

4. Automated statistic update capability from in-house and third-party services (i.e.; GSIS league, sports ticker, Stat Crew) along with automatic statistical updates during event from event scoring controller.

5. Supply and installation of new character generators and slow motion and clip playback computers to replace existing.

6. Option Pricing

7. Operations and maintenance training.

E. The Video Production Replacement includes the following major items

1. Slow Motion Replay Systems

2. Clip Players

3. Character Generators

4. Matrix intercom system

F. The Contract also includes:

1. Provision of final engineering, development of final design drawings and submission to the Owner and Consultant for approval.

2. Submission of all information required by public agencies.

3. All necessary construction permits.

4. Verification of dimensions and conditions at the job site.

5. Coordination with other contractors and trades; especially where working in common areas (e.g. control and rack room).

6. Preparation of submittal information.

7. Initial tests and adjustments, written report, and documentation.

8. Instruction of operating personnel; provision of manuals.

9. Creation and documentation for all software required to achieve specified capabilities of system.

10. Maintenance services; warranty.

11. Attendance at project meetings as required for coordination of efforts.

12. Pre-event check and major event support as outlined herein.

G. The Contract Documents are complementary and are intended to include or imply all items required for the proper execution and completion of the work. Any item of work required by the Specifications or other portion of the Contract Documents, but not shown on the drawings, or shown on the drawings but not required in the Specification, shall be provided without extra charge as if shown or mentioned in both.

H. The Owner reserves the right to make reasonable device and equipment location changes prior to rough installation without claim for additional expense.

1.2 REFERENCES

A. American Iron and Steel Institute (AISI)

B. American National Safety Institute (ANSI)

C. American Society of Mechanical Engineers (ASME)

D. American Society of Testing and Materials (ASTM)

E. National Electrical Manufacturer's Association (NEMA)

F. Occupational Safety and Health Administration (OHSA)

G. Underwriters Laboratories (UL)

H. United States Institute of Theatre Technology (USITT)

I. Entertainment Services and Technology Association (ESTA)

J. Standard for Electric Signs, UL-48, 13th Edition

K. Standard for Control Centers for Changing Message Type Signs, UL-1433, 1st Edition

L. Federal Communications Commission Regulation Part 15

M. National Electric Code (NEC)

N. Execute work in accordance with the following published design guidelines and reference manuals for recommended methods of trade, industry, institutions or governmental organizations.

1. Building Industry Consulting Services International (BICSI) Telecommunications Distribution Methods Manual (TDMM), 13th Edition, 2014

2. BICSI Outside Plant Design Reference Manual, 4th Edition, 2007

3. National Electrical Contractors Association (NECA)/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling

4. NECA/BICSI 607-2011, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings

5. Execute work in accordance with the following list of TIA standards.

   a. TIA-526-7 Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant – OFSTP-7 - (February 2002)

   b. TIA-526-14-A (OFSTP-14), Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant (1998 [R2003])

   c. ANSI/TIA-568-C.0 Generic Telecommunications Cabling for Customer Premises – (February 2009)

   d. ANSI/TIA-568-C.1 Commercial Building Telecommunications Cabling Standard – (February 2009)

   e. ANSI/TIA-568-C.2 Balanced Twisted-Pair Telecommunications Cabling and Components Standards – (August 2009)

   f. ANSI/TIA-568-C.3 Optical Fiber Cabling Components Standard – (June 2008)

   g. TIA-569-B Commercial Building Standard for Telecommunications Pathways and Spaces - (October 2004)

   h. TIA-598-C Optical Fiber Cable Color Coding – (January 2005)

   i. TIA-606-A Administration Standard for Commercial Telecommunications Infrastructure - (May 2002)

   j. J-STD-607-A Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications – (2002)

   k. TIA-758-A Customer-owned Outside Plant Telecommunications infrastructure Standard – (2004)

l. TIA/TSB-140 Additional Guidelines for Field-Testing Length, Loss and Polarity of Optical Fiber Cabling Systems – (February 2004)

1.3 DESCRIPTION OF WORK

A. Replacement and reconfiguration of the Content Management system which include content playback devices and compositing and configuration of upstream display processing (that is upstream of display processing).

1. As built Daktronics drawings: https://bit.ly/WjhwTiaaLEDAB21

2. As built Video Production Systems: https://bit.ly/WjhwTiaaVPAB21

B. Within the control and rack room:

1. Remove and dispose of existing, unused electronics and cabling utilized for existing video and scoring displays equipment to be replaced. The Owner may retain certain devices as spare inventory. This will be outlined during the pre-proposalconference.

2. Note: All disposed items shall be disposed in a proper manner conforming with Owner LEED EB O&M document requirements for the materials in question and an affidavit shall be provided to the Owner that all materials have been properly disposed.

3. Retain existing KVM transmitters and receivers for reuse.

4. Re-rack relevant racks as required to maximize space, airflow and maintain proper services such as emergency messaging and interim event support as may be necessary for events as scheduled.

C. Scoring and Video Control

1. Ability to receive electronic text data from standard stenography (captioning) equipment and data from electronic services such as ESPN Gamecast, Sports Ticker, etc. If not inherent to components provide information on encode/decode device.

2. All control equipment to operate video and LED displays shall be located in:

a. Scoreboard Control Room, adjacent Rack Room on the press level and Cinema work space Service Level of the rack room.

b. Space is available in the Rack Room for all video and LED display control and processing equipment. Coordinate all equipment installation with Owner.

3. All game in progress, out of town and statistical data to be available, for the life of the installation, to the displays or any added afterwards. Creation of software interface displays to be included in this scope of work.

4. Automated statistic update capability from in-house and third-party services along with automatic statistical updates during game from game scoring controller.

D. Provide game in progress statistics distributed via fiber optic cabling and fiber modems to the following locations.

1. In-House, scoreboard video production (replay) system

2. TV truck dock cabling racks, minimum of four connection/output locations.

   a. Permanently install modem and data outputs in rack panel. Label function and connections.

3. Any in stadium provided service that may be located in the scoreboard control room (e.g. IPTV, FanVision, Crossfire/Blaze/Click Effects, Character Generators, etc.).

4. The in-house video production system EEG HD490 closed caption encoder and EEG Vanc Data Monitor Model DE285 are to be utilized for captioning in the event this feature is to be added.

1.4 RESPONSIBILITY AND RELATED WORK

A. Supply accessories and minor equipment items needed for a complete system, even if not specifically mentioned herein or on the drawings, without claim for additional payment.

B. Notwithstanding any detailed information in the Contract Documents, it is the responsibility of the CMS Installer to supply systems in full working order. Notify the Owner of any discrepancies in part numbers or quantities before bid. Failing to provide such notification, supply items and quantities according to the intent of the Specification and Drawings, without claim for additional payment.

C. Obtain all permits necessary for the execution of any work pertaining to the installation, or any operation by the Owner.

D. If a conflict develops between the contract documents and the appropriate codes and is reported to the Owner prior to bid opening, the Consultant will prepare the necessary

clarification. Where a conflict is reported after contract award, propose a resolution of the conflict and, upon approval, perform work.

E. Electrical

1. Power is provided to existing rack's with power distribution. Contractor will have to balance the new loads with existing circuits for proper operation.

2. The entire rack and control room are on a room wide UPS, so no secondary UPS are required.

F. Coordinate work with other trades to avoid causing delays in construction schedule.

G. Display Signal Cabling and Conduit

1. Install signal in existing conduit, raceway and cable tray. If additional conduit is required, provide.

2. Remove and dispose of cabling that is abandoned as part of the project.

3. Do not damage any existing signal cabling that may be co-located with video and scoring cabling. In the event of damage, bring damage to attention of Consultant and propose acceptable repair.

H. Fire Alarm Interface. Provide a fire alarm interface to engage emergency evacuation messages on designated displays.

I. Coordinate product and materials delivery, offloading, staging, security and transportation with Owner.

J. Provide early delivery and training for Content Control System components to be setup at facility no later than April 30. Provide initial commissioning and training as outlined herein.

1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. At least five years' experience with equipment and systems of the specified types.

2. Experience with at least five (5) comparable scale MLB or NFL stadiums new construction or renovation projects within the last three years.

3. Maintain a fully staffed and equipped U.S. service facility.

4. Scoring software appropriate for NFL games and automated statistical record keeping.

B. Prime Contractor's Qualifications information to be provided with Bid Response. Firm experienced in the installation of systems similar in complexity to those required for this project; and meet the following criteria. Owner may choose to waive or enforce these items at the Owner's sole discretion:

1. At least five years' experience with equipment and systems of the specified types.

2. Experience with at least two (2) comparable scale MLB or NFL stadiums new construction or renovation projects within the last three years.

3. Maintain a fully staffed and equipped U.S. service facility.

4. With the bid return, the potential Installer shall demonstrate that he has:

   a. Adequate plant and equipment to complete the work.

   b. Adequate regional service organization to meet warranty.

   c. Adequate staff with commensurate technical experience.

   d. Suitable financial status to meet the obligations of the work.

   e. Hourly fee for software/animation programming.

   f. References from three (3) or more CMS or Video Production installations within the last 3 years.

   g. List of electrical and other subcontractors intended to do the work.

5. Contractor shall attend pre-installation meetings to coordinate with other trades as required.

1.6 SUBMITTALS

A. Submit all shop drawings and submittals in accordance with project requirements. Quantities listed herein are the minimum required of this contractor.

B. Shop drawings and submittal data shall contain sufficient information to describe the Work to be performed. Drawings shall be executed at an appropriate scale. Submit files in Auto Cad/Revit and PDF format, and 1 hardcopy sets of drawings and submittal data; submit copies of catalog data sheets neatly bound in sets. Submit all Shop Drawing information at one time if possible. Submittals are to be a provided on a schedule that allows for a 14 calendar day Owner review period without jeopardizing the project completion schedule. Information shall include

but not necessarily be limited to:

1. Complete, detailed wiring diagrams for all systems, based on the contract documents but including cable types, identification and color codes, and detailed wiring of connections, both at equipment and between equipment racks and wiring inconduit.

2. Location of all equipment in racks, consoles, mill work, enclosures or on Owner provided countertop/tables with dimensions; wire routing and cabling within housings; AC power outlets, terminal strip and UPS locations.

3. Schematic drawings of any custom circuitry or equipment modifications, including connector pinouts and component lists.

4. A material list of all equipment to be furnished, arranged in specification order. This list shall be followed by catalog data sheets, arranged in specification order, of all equipment to be furnished. Where a data sheet shows more than one product, indicate the model being proposed with an arrow or other appropriate symbol. This submittal must be submitted in its entirety.

5. Power consumption of electronics racks.

6. Proposed cable labeling technique.

7. Samples as required in various specification paragraphs.

8. Serial number list by location and rack.

C. Training and Event Attendance Submittals:

1. All Operations and Maintenance manuals, as well as as-built drawings must be on site for all sessions of training.

2. Following discussions with Owner, formally submit a Training and Event Attendance submittal 2-4 weeks prior to first training. Submittal shall:

   a. Include a separate page/entry for every training session.

   b. Indicate date, time, and approximate length of training session.

   c. Indicate person(s) conducting training.

   d. Indicate whether training will be video recorded.

   e. Intended curriculum and most appropriate attendees (e.g. engineer, operations, IT, etc.)

   f. Include signature and title lines for

      1) Owner acknowledging and accepting training schedule. Include both an accepted and rejected box. An alternate schedule time should be suggested by the Owner in the event the schedule is rejected.

2) Countersigning by trainer indicating that training actually occurred.

3) All persons attending training. Where attendees do not stay for the entire session, this should be noted on the form and initialed by Owner's representative attending training.

4) Owner's representative attending training at the end of the session shall initial that:

a) Training Occurred.

b) Training Materials were provided and left with Owner

c) Training was not interrupted or shortened by equipment or system troubleshooting. If it is, then there should be a line where Owner and Contractor can indicate when make-up training will be provided and how long it should be.

d) Training was generally sufficient for the proposed curriculum.

g. Include Notes section for Owner and Contractor to note any issues during training (areas requiring further development, etc.)

3. Following training occurrence, submit completed training records no later than 5 days following end of training. When training is conducted over a period of weeks, completed training submittals shall be consolidated into a single submittal and submitted every 2 weeks.

D. Final Inspection Notification Report. Two copies of a typed, neatly prepared checkout report for each piece of equipment and the entire system shall be prepared and submitted; it shall include:

1. A complete listing of every piece of equipment including serial number, the date it was tested and by whom, the results and date re-tested (if failure occurred during any previous tests).

2. The final report shall indicate that every device tested successfully.

3. A performance test report indicating that the system meets all of the Installer testing requirements of Part III.

E. Contract closeout submittals:

1. Keep a complete set of drawings on the job, note any changes made during installation, and submit 1 corrected set of reproducible drawings showing Work as installed.

2. Submit the following data for review, prepared as indicated, at least one week prior to acceptance testing (exceptions noted):

a. System Reference Manual: Furnish 2 copies, in 3 ring binders, sized to hold the material plus 50% excess, with clear vinyl pockets on cover and spine for project

title. Provide tabular dividers with permanent legends for the following sections:

1) System Operation and Instructions. Prepare a complete and typical procedure for the operation of the equipment as a system, organized by subsystem or activity. This procedure should describe the operation of all system capabilities. Assume the intended reader of the manual to be technically inexperienced and unfamiliar with this facility.

2) A list of all equipment, indicating manufacturer, model, serial number, and equipment location (i.e.; rack/room number). Update following acceptance testing, if changed.

3) Manufacturer's Instruction Manuals for all items of equipment, incorporating or followed by manufacturer's warranty statements.

   a) Where manufacturer registration is required, register warranty in Owner's name, and at an address determined by Owner. Provide copy of registration.

   b) For custom circuits or modifications, a description of the purpose, capabilities, and operation of each item.

4) A list of settings, if applicable, of all semi-fixed controls. Update following acceptance testing.

5) Photographically reproduced schematic wiring diagrams, based on the as-built documentation, at a reduced scale easy to handle but fully legible.

6) Maintenance Instructions, including Installer's maintenance phone number(s) and hours; maintenance schedule; description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.

7) A legend of acronyms and abbreviations must accompany all documentation.

8) Any other pertinent data generated during the Project or required for future service.

b. In titled ring binders sized for material below, plus 50% excess; 2 copies:

1) Manufacturer's Service Manuals and parts lists for all equipment. Photocopies are not acceptable. For custom circuits or modifications, complete schematics and parts lists.

2) As-built wiring diagrams and system block diagrams showing nominal input and output levels. (Submit within two weeks after Acceptance Testing.)

3) Duplicate copies of reduced-scale wiring diagrams.

c. Photographically reproduced as-built wiring diagrams and overall Stadium

wiring diagrams, at a reduced scale easy to handle but fully legible

F. Submittal format:

1. Provide a unique control number in consecutive order (e.g. 11 6355-001)

2. Provide a complete table of contents with the following information:

   a. Project title and number

   b. Submittal number. In the case of a resubmittal, use the original submittal number immediately followed by the suffix "R" immediately followed by a unique number and be numbered in consecutive order.

3. Date of submission.

4. Referenced addendum or change order number as applicable.

5. Referenced specification Section, Part, Article, Paragraph and page number or drawing reference as applicable.

6. Index by manufacturer and model or part number unless specified otherwise herein.

7. Each submission page stamped with Contractor's certification stamp, initialed or signed certifying:

   a. Review, approval and acceptance of submission.

   b. Certification of product compliance to specification.

   c. Verification product may be incorporated within the work.

8. Arrange product data list in specification order when applicable followed by unspecified product arrange by manufacturer and model or part number. Follow list by manufacturer's data sheets, arranged in the same order. Where a data sheet shows more than one product, indicate the model being proposed with an arrow or other appropriate symbol.

9. Drawings executed at an appropriate scale, but not smaller than 1/8 inch =1'–0".

10. Bind Project Record Manual in titled three ring D style binders sized for 150 per cent of the required material. Maximum size: three inch spline. Use multiple volumes if necessary.

G. Resubmission Requirements:

1. Make any requested corrections or change in submittals required. Resubmit for review until no exceptions are taken.

2. Indicate any changes that have been made other than those requested.

1.7 PROJECT CONDITIONS

A. Verify all conditions on the jobsite applicable to this work. Notify Consultant in writing of discrepancies, conflicts, or omissions promptly upon discovery.

B. The drawings diagrammatically show cables, conduit, wiring, and arrangements of equipment fitting the space available without interference. If conditions exist at the job site which make it impossible to install work as shown, recommend solutions and/or submit drawings to the Consultant for approval, showing how the work may be installed.

C. This installer is responsible for all additional electrical (high and low voltage) work for completed systems.

1.8 SOFTWARE LICENSE

A. Introduction

1. All proprietary software provided for the Technical Systems shall be subject to this software license between the Contractor and the Owner as an essential element of the system as defined in the system specification and associated documents, drawings and agreement.

2. Contractor shall agree that 3rd party proprietary software provided with the system shall be subject to this agreement.

3. Contractor and Owner agree that this software license is deemed to be part of, and subject to, the terms of the Agreement applicable to both parties; and shall supersede any standard manufacturer or Contractor's standard license agreement.

4. Proprietary software shall be defined to include, but not be limited to, device and system specific software and firmware designed to run on conventional computer based operating platforms as well as all micro-processor based hardware used to program, setup, or operate the system or its components.

5. For sake of this agreement, MS Windows® shall not be considered "proprietary" software, unless a non-public version of Windows® or any of its components are critical to the operation of the system in which case it shall be deemed proprietary.

B. LICENSE GRANT AND OWNERSHIP

1. Contractor hereby grants to Owner a perpetual, non-exclusive, site license to all software for Customer's use in connection with the establishment, use, maintenance, and modification of the system implemented by Contractor. Software shall mean executable object code of software programs and the patches, scripts, modifications, enhancements, designs, concepts or other materials that constitute the software programs necessary for the proper function and operation of the system as delivered by the Contractor and accepted by the Owner.

2. Except as expressly set forth in this agreement, Contractor shall at all times own all intellectual property rights in the software. Any and all licenses, product warranties or

service contracts provided by third parties in connection with any software, hardware or other software or services provided in the system shall be delivered to Owner for the sole benefit of Owner.

3. Owner may supply to Contractor or allow the Contractor to use certain proprietary information, including service marks, logos, graphics, software, documents and business information and plans that have been authored or pre-owned by Contractor. All such intellectual property shall remain the exclusive property of Owner and shall not be used by Contractor for any purposes other than those associated with delivery of the system.

C. COPIES, MODIFICATION, AND USE

1. Source code shall be available to Owner for a period of not less than 15 years.

2. Owner may make copies of the software for archival purposes and as required for modifications to the system. All copies and distribution of the software shall remain within the direct control of Owner and its representatives.

3. Owner may make modifications to the source code version of the software, if and only if the results of all such modifications are applied solely to the system. In no way does this Software License confer any right in owner to license, sublicense, sell, or otherwise authorize the use of the software, whether in executable form, source code or otherwise, by any third parties.

4. All express or implied warranties relating to the software shall be deemed null and void in case of any modification to the software made by any party other than Contractor.

5. During the life of the system (defined as a period of not less than 10 years and not more than 15 years), the Contractor shall provide software updates in accordance with all necessary support requirements to maintain the system. This shall include a commitment to provide appropriate patches, fixes, and interface updates as necessary to maintain the operability and security of the system at a level commensurate with the original system.

   a. In the event that computer and or processor hardware refinements and updates are necessary to support software updates 7 years after substantial completion, said hardware will be provided to Owner at the agreed upon terms for change orders of the original contract.

   b. Labor shall be in accordance with change order rates of the original contract, as adjusted for inflation in accordance with Bureau of Labor Standards Employment Cost Index for Private Industry Workers (All Workers table). Historical information on ECI is currently available at: http://www.bls.gov/web/echistrynaics.pdf.

   c. As an example, software shall be updated in accordance with an changes to league data systems, Sportsticker revisions, and to support new systems as they become available to the marketplace.

6. All hardware supplied shall support software updates for a period of not less than 7

years following substantial completion.

7. All commercial software used, shall be registered to Owner, in Owner's name. Owner to be supplied with all software documentation including copies of software registration (completed by contractor).

8. All custom software shall be written with remark statements which document function of subroutines and program requirements.

D. WARRANTIES AND REPRESENTATIONS

1. Contractor represents and warrants to Owner that:

   a. It has all necessary rights and authority to execute and deliver this Software License and perform its obligations hereunder and to grant the rights granted under this Software License to Owner.

   b. The goods and services provided by contractor under this Software License, including the software and all intellectual property provided hereunder, are original to Contractor or its subcontractors or partners; and

   c. The software, as delivered as part of the system, will not infringe or otherwise violate the rights of any third party, or violate any applicable law, rule or regulation.

   d. the Software at the time of delivery and at the commencement of the Warranty Period will not contain any virus, worm, lockout device, drop dead device, back door, time bomb, logic bomb, other contaminant, or self-propagating program designed to maliciously disable, erase, destroy, damage, alter or render meaningless, useless or ineffective, or otherwise harm, any data, content or functionality.

2. Contractor further represents and warrants that, throughout the System Warranty Period, the executable object code of software and the system will perform substantially in accordance with the System Specifications and Agreement. If the software fails to perform as specified and accepted all remedies are pursuant to the policies set forth in the Specification and in the Agreement. No warranty of any type or nature is provided for the source code version of the software which is delivered as is.

3. Except as expressly stated in this Agreement, there are no warranties, express or implied, including, but not limited to, the implied warranties of fitness for a particular purpose, of merchantability, or warranty of no infringement of third party intellectual property rights.

E. THIRD PARTY ACCESS/INTERFACE

1. Where software provided is used to generate statistical information, installer represents and warrants to Owner that:

a. All license costs to provide "connections" (e.g. ODBC, XML, 232/422 discrete streams etc.) to other users (e.g. LED displays, CGs, even relational databases)are included.

b. Interfaces at initial installation shall be to no less than 4 other systems.

c. Costs for initial installation have been included. This shall include, but not be limited to: telephone consultations, file modifications required to provide the desired feed, protocol documentation, advance notification of system changes, etc.

d. Costs for future interface consultation shall not exceed $3,000 per annum.

1.9 ACCEPTANCE TESTING

A. Upon completion of installation and initial tests and adjustments specified in Part 3, acceptance testing shall be performed by the Owner's representative or Owner's Consultant.

B. Provide two persons familiar with all aspects of the system to assist the Owner's representative or Owner during acceptance testing. One of the available individuals must have specialized knowledge of the computer control system operating software and function of the system.

C. The process of acceptance testing the System may necessitate moving and adjusting certain component parts; perform such adjustments without claim for additional payment.

D. Final Acceptance of CMS shall occur after the CMS have functioned without failure for two separate regular season home games.

1. Failure shall be defined as a failure of the display, or a portion of the display equal to 10% of that display's square footage, to meet the project performance specifications for a length of time greater than one minute due to electronic, electrical, mechanical, structural, or other failure of the display. Failure due to Owner's operators, spectators, or force majeure will not be considered event failure; failure due to installer's operators will be considered a failure.

1.10 WARRANTY/MAINTENANCE

A. Warrant labor and all equipment/materials for twenty-four (24) months following the date of final acceptance or the second, trouble-free, (as designated by the Owner), regular season event in the aquatic center, whichever is later, to be free of defects and deficiencies, and to conform to the drawings and specifications as to kind, quality, function, and characteristics. Repair or replace defects occurring in labor or materials within the Warranty period without charge.

B. This warranty shall not void specific warranties issued by manufacturers for greater periods of time, nor shall it void any rights guaranteed to the Owner by law.

C. System to be free of defects and deficiencies, and to conform to the drawings and specifications as to kind, quality, function, and characteristics. Repair or replace defects occurring in labor or materials within the Warranty period without charge.

D. Register all manufacturer's warranties (e.g. software, computers, etc.) in Owner's name.

E. Maintain spare parts inventory on-site and availability, as listed in this specification from end of initial warranty period through year 10 of display life. Within 72 hours of notification that spare part has been used, shall be replaced by the service representative/manufacturer.

1.11 WARRANTY PERIOD SUPPORT REQUIREMENTS

A. Within the warranty period, Installer shall be required to answer service calls within 4 hours and mitigate the problem within twenty-four hours.

B. Preventative inspections shall occur within 30 days of the first event of the second and third seasons (one of the inspections will be occurring preceding the expiration of the 2-year warranty period) by not more than 40 days.

C. In addition to training and warranty requirements, this installer shall provide event support services to facilitate troubleshooting and effect repair of the specified systems during critical events.

D. Event support shall begin in a period 48 hours prior to the opening of gates and shall extend to 72 hours for a Sunday game and 96 hours for a Monday game.

1. Two to three days prior to the event; test and review all CMS components and supporting computers to confirm proper operation; repair and address issues as required.
2. Be available on call after testing.
3. Be present on game day from at least 2 hours before gates open, until the time released by the Owner.

E. During each year, provide these services for up to 15 events as designated by Owner.

F. Provide sufficient manpower to effect repairs as expeditiously as possible.

G. For two events designated by Owner at the beginning of each warranty season, provide one (1) full day and one (1) event day of Video Processor (e.g. Ross Mosaic) operator configuration at a time designated by Owner by a manufacturer authorized trainer/operator/commissioning agent.

H. Event support shall be provided by Senior Installer or Senior project engineer as approved by

Operator.

1.12 PRODUCT STABILITY AND LIFE CYCLE DECLARATION

A. This system is intended to be used by the Owner for 6-8 years holistically, and some key parts may be used in excess of 10 years. This section addresses this concern and project planning to ensure a stable, serviceable system for the Owner.

B. The Owner may elect to pursue and maintain extended service contracts, warranties, and/or Service-Level Agreements with the Original Equipment Manufacturer (OEM) as outlined in this specification or offered by the OEM directly. Should the Owner execute these agreements, the OEM agrees that it may not sever or otherwise terminate these agreements due to product life cycle issues without providing an alternate solution at no additional cost at the time of issue for a minimum of 6 years. No language in the agreement shall supersede this requirement. If the Owner should not elect these agreements, the OEM agrees to provide no less than 18 months' notice that a product will be discontinued and offer at least the discount structure provided in the original project to the Owner to replace the obsolescing product/system with products fulfilling the same function.

C. For all products proposed by the Contractor to meet this design specification and associated drawings, produce a report identifying which stage of product life cycle each product is in:

1. Introduction phase

   a. This phase is defined as: Any products that are unreleased, newly released at bidding time, or scheduled to be released between the time this specification was originally transmitted and the date of integration in the Owners facility. Expected usable life is 10 years and beyond for products in this phase.

   b. For any products in this phase:

      1) Identify unreleased products regardless of when they are scheduled to be released

      2) Identify any products for which the Owner will be the first primary user. Do not account for launch partners, test bed sites and the like.

2. Growth/Maturity phase:

   a. This phase is defined as: Products in the primary expansion and stable phase of product life. The product should be stable, past initial launch bugs, and be in a routine support system not requiring special effort by initial development teams to find and address Owner issues. Expected usable life is 7-10 years for products in this phase.

3. Decline phase:

   a. This phase is defined as: Any product that is anticipated to be off the market in less than 6 years from the date delivered to the Owner.

b. For any products in this phase:

1) Identify products at risk of being obsolesced in 6 years or less. Provide suggestions for alternate solutions deployable at time of specification transmittal which would remove this product list.

2) Provide statement of conformance from the original equipment manufacturer that the product proposed will be supported for a minimum of 6 years from the date of first use as defined in the project manual without claim for additional costs beyond standard service costs or extended warranty costs. One statement from each OEM including a list of applicable products is acceptable.

1.13 OWNER FURNISHED EQUIPMENT

A. Certain Equipment is identified as Owner Furnished Equipment (OFE). This Owner Furnished Equipment will be available from the Owner at the project site.

B. Inspect the Owner Furnished Equipment and advise the Owner of damage or defect and the extent of repair and/or adjustment required to bring the Owner Furnished Equipment to operating specifications. Any repair service is beyond the current scope.

C. Incorporate into the system as if new, excepting warranty coverage.

D. Existing Owner Furnished Equipment

1. Daktronics Processors
2. KVM interfaces
   a. KVM Transmitters
      1) G&D Single Head transmitters
   b. @KVM Interfaces
   c. Miscellaneous Monitors, Keyboards and pointing devices.
3. Network Switches
4. Uninterruptible Power Supplies UPS)

1.14 OWNER INSTALLED EQUIPMENT.

A. The following equipment will be supplied and installed by the Owner. Certain cable and connections or services are provided to this equipment by the Video Control Installer. Coordination of cable connections and configuration is required. The actual equipment and its installation are by Owner or separate contract.

1. None at this time.

1.15 OPTIONS AND UNIT COSTS

A. Option 11 63 55 – A: Service Contract for software only for Years 3 through 10 for the scope of work covered under 11 63 55. Pricing shall remain in effect until the end of the warranty period or until the Owner accepts or declines this service contract whichever occurs first.

1. Requirements of service contract.

a. All costs for US factory parts repair or replacement shall be included.

b. Following expiration of warranty period, owner will remove failed components from display (scoring or video) and ship, at owner's expense, to US repair depot.

c. Installer (or installer's Supplier) shall repair or replace components and ship to owner, at installer's expense using next-day delivery for Tuesday to Saturday deliveries at project location. Installer shall ship repair parts, within 24 hours of request of owner, prior to their receipt of failed part.

d. Repair and return shipment shall be in a timely fashion to maintain display operation.

B. Option 11 63 55 – B: Service Contract for hardware for entire installation (processing and content management electronics, etc.). Years 3 through 10 for the scope of work covered under 11 63 55. Pricing shall remain in effect until the end of the warranty period or until the Owner accepts or declines this service contract whichever occurs first.

1. Requirements of service contract.

a. All costs for US factory parts repair or replacement shall be included.

b. Following expiration of warranty period, owner will remove failed components from display (scoring or video) and ship, at owner's expense, to US repair depot.

c. Installer (or installer's Supplier) shall repair or replace components and ship to owner, at installer's expense using next-day delivery for Tuesday to Saturday deliveries at project location. Installer shall ship repair parts, within 24 hours of request of owner, prior to their receipt of failed part.

d. Repair and return shipment shall be in a timely fashion to maintain display operation.

e. In the event that hardware must be changed out within a period of time during the parts warranty, please indicate year of this occurring.

C. Option 11 63 55 – C: Cost for annual pre-season "health check". Service to include updating of all software, verification of all control and display functions, repair (from owner spare inventory) of control equipment. The intent is, to the extent possible, bring the system up to as new operating condition and performance. Provide annual cost, guaranteed for years 3 through 10, including expenses.

D. Option 11 63 50-D. Slow Motion Replacement Option. Provide incremental cost to replace low, base bid Slow Motion solution

1. Option 11 63 50-D1. Evertz Slow Motion Solution

a. Supply Acceptable Evertz Dreamcatcher based solution in lieu of base (low) bid configuration

2. Option 11 63 50-D2. EVS Slow Motion

a. Supply Acceptable EVS based solution in lieu of base (low) bid configuration

3. Option 11 63 50-D3. Ross Video Slow Motion

a. Supply Acceptable Ross Video Based solution in lieu of base (low) bid configuration. Configuration must meet all base bid requirements.

E. Option 11 63 50-E. Provide HDMI conversion in place of existing Lightware Router.

1. Provide frame based HD SDI to HDMI conversion to support CMS conversion into LED processors

a. Quantity: as Required.

F. VOLUNTARY ALTERNATES

1. Alternate 11 63 55 - VE# The Owner welcomes voluntary alternates that can improve the performance and functionality of the system or remove cost by deleting a requirement of the specifications that can save the Owner significant cost. Describe alternate and consequences, if any, for functionality, reliability or performance.

D. PART 2 - PRODUCTS

2.1 SPECIFIED PRODUCTS AND MANUFACTURERS

A. Model numbers and manufacturers included in this specification are listed as a standard of quality. Regardless of the length or completeness of the descriptive paragraph herein, each device shall meet all of its published manufacturer's specifications. Verify performance as

required. Where two or more acceptable products are listed, the Installer may select from the acceptable at their discretion.

B. Other qualified manufacturers will be considered subject to approval of complete technical data, samples, and results of independent testing laboratory tests of proposed equipment, submitted in accordance with project requirements.

C. If proposed system includes equipment other than specified model numbers, submit a list of major deviating items and their quantities, with a one-line schematic diagram for review.

D. Include a list of previously installed projects using proposed equipment that are similar in nature to specified system.

E. If product is discontinued or made obsolete due to continuing product development, replace it with manufacturers' equivalent at time of installation at no additional cost subject to approval by the Architect and Owner's representative

F. Suppliers invited to Bid are done so with no implication or certification that their proposed products meet the technical requirements of this specification. Potential vendors are invited to prepare prices for more than one display type meeting these specifications (i.e. different pixel spacing). Suppliers invited to bid include:

1. Control/content management equipment/software

   a. Daktronics

   b. Ross Video

2.2 GENERAL

A. All equipment supplied shall be new and meet the latest published specifications of that product. In the event that the product is enhanced, or improved, supply the newer product at no additional cost.

1. If product is discontinued or becomes obsolete due to continuing product development, replace it with manufacturers' current equivalent at time of installation at no additional cost.

2. If product is discontinued or becomes obsolete due to technology change, substitution will be based on fair market value of accepted and proposed products, upon approval of substitution by Consultant.

B. While service contract costs form the basis for alternates, the annual costs for a parts only service contract cannot exceed 6.5% of the base bid price for this section of work. The specifics of the parts only costs are outlined in the description of the service contract.

C. Manufacturer's name, logo or representation shall not be visible to the public in any fashion.

D. All materials shall fully comply with Underwriters Laboratories or other acceptable testing agencies acceptable to local authorities with jurisdiction.

E. Regardless of the length or completeness of the descriptive paragraph herein, provide product complying with no less than the specified manufacturer's published specifications.

F. Provide product not specifically specified commensurate with the quality and standards established by the specified product.

G. Provide product of given type from one manufacture.

2.3 LED DISPLAY PROCESSING AND COMPOSITING

A. Video/Scoreboard Processor

1. Video Display Compositor (CCOMP1)

   a. Ross Mosaic as quoted in 2.4 C.

2. Provide remote operation will be for the processor which responds to the VDCP or Rosstalk protocol common in production switchers which allows for effects (in this case processor transitions) to be queued, run, and rewound. Note: VDCP over Ethernet has been supported/operated to date and is preferred implementation.

3. Each compositor shall output two HD-SDI signals to video production system which represents a composite of the same "feed" which is being sent to the video display.

   a. If computers are employed as part of the LED Video display system, they shall meet these specification requirements as well as:

   b. If a computer is used as part of the processor—or used for remote control or any other functions of the video board—provide a complete backup computing system running in a full-time, on-line backup mode with appropriate disk mirroring.

4. Video boards are to be programmed independently, do not assume mirrored display(s).

B. Redundant Video Processing is required.

2.4 LED VIDEO AND LED DISPLAY CONTROL COMPONENTS

A. Computer based control system hardware shall exhibit sufficient computer processor power

and speed to generate images instantly on command. Software packages and control electronics shall provide specified operational features. All control system software and messages shall be stored on non-volatile disk. Function of each workstation used for a particular display shall be able to be accessed and operated in the event of computer failure with workstation in the same functional group.

B. For this project the following configurations are allowed:

1. Fully redundant solutions
2. N+2 for Players (with maniual failover)
3. N+1 for support functions (with manual failover)

C. Minimum Computer Processor Configuration for each CPU

1. CPU: as required by system operation.
2. Case: rack mount, with mounting rails.
3. Memory: 32 gigabyte (minimum) expandable to 64 gigabytes; if software requires additional memory to function, provide at no cost to Owner.
4. Hard Disk: as required to support 5 years of material.
5. Video: 64 bit graphics accelerator capable of 16 million colors at 1920x1200. Refresh rate to be at least 72 Hz. Configure system to run at optimum resolution.
6. Monitor:
7. Mouse: Two button Microsoft Intellimouse with IntelliEye.
8. Keyboard: full size with separate numeric keypad and cursor control.
9. Serial ports: two.
10. Computer system shall be completely tested by manufacturer prior to delivery.
11. 10/100/1000 Mbps Fast Ethernet adapter
12. Software:
    a. All software necessary to interface this computer to scoring system for configuration and operation.
    b. Provide latest version of Windows® software on computer that is compatible with Video Display system.
    c. Provide with Microsoft Internet Explorer, Google Chrome, Safari or Firefox, depending upon team's office standard or preference.
13. Control System configuration to include on-line, redundant primary and backup server.

14. Computers to consist, at a minimum, of the following:

    a. Scoreboard Room remote control computer (may be Keyboard, Video, and Mouse extension if architecture supports this approach).

    b. Rack control computer (may be Keyboard, Video, and Mouse extension if architecture supports this approach).

    c. Operator 1

    d. Operator 2

    e. Operator 3

D. Control & Interface Requirements

E. Control & Interface Requirements

1. External Feeds

    a. Information on out-of-town statistics, standings, league, team and individual statistics shall be acquired via the NFL, Sports Ticker data feeds or other third party services as identified by the Team. These feeds to be interfaced directly with scoreboard control system, with automatic, real-time update capability.

    b. Installer to coordinate interface with outside information services with the Team. Software vendor shall interface to any data service client wishes throughout the warranty period. Vendor may identify any limitations of this service with their response (e.g. XML, 232, or other data interfaces).

    c. System to allow input of electronic stenograph data for text display on any matrix display and existing fascia displays. Coordinate location of stenographer with Consultant and Team. Provide data link to this location from control system.

2. Closed Captioning

    a. Interface the LED Content Generation system with the existing Closed Captioning Encoders to display captioning feeds on the appropriately designated ribbons.

3. The LED control system shall be configured to allow the following functions.

    a. Preview: Preview animations or messages on the user system monitor(s) prior to display on spectator displays.

    b. Maximum of a 0.25 second response to a control system command.

    c. Security Code Access: Passwords shall be available to system users to log into and access the control of the display system.

    d. Message Display Procedure: User can develop a display "play list" that can include an unlimited number of files (messages) in a specified order, for a

specified period of time, at certain times of the day. Individual files can be given time constraints so that a message can be dropped from being displayed after a given number of times.

e. Messages to be able to combined with images in a single template and the resulting combined file able to be scheduled for automated presentation. The start time of the display to be able to be entered for subsequent automated start, or initiated immediately with a key stroke/click. Files in queue to be able to be identified, and duration of each message on the display set via software control.

f. Message Logging and Recall: All displayed messages or animations shall be recorded into a Message Log. Any message or selected number of frames of animation can be retrieved from the Message Log and printed on the system printer. A summary of the Message Log shall provide a description of the event, title of the message or animation, date and time of display, duration of display, which board(s) received the message, and which particular quarter/inning (or other moment of the event) the message occurred. A similar log shall exist for the rotating signs.

g. Real Time Access: Provide access from any message console to current messages, statistics, game-in-progress and animation.

h. Minimum of 8 user definable display zones (separate areas for displaying information) within both color and monochrome displays for the matrix boards with the size and location determined by the operator. Zones to be controlled individually, in groups, or totally at the same time, for all scoring, including auxiliary boards. Zone capability to simultaneously include text captioning or score at location of displays. Messages shall be able to crawl or roll in predefined zones with a minimum of four separate speeds.

i. Temperature, time of day and date programming.

j. Provide capability to define location, size, fonts, and format of clocks on any addressed display.

k. Assignable Z-order priority

l. Effects: Provide the following effects for characters, messages, symbols and animation:

1) Operator control of message, including sequencing and timing.

2) Repetitious rotating of selected zones of any display zone with at least three separate speeds.

3) Vertical and horizontal venetian blind change.

4) Horizontal travel with a minimum of three separate speeds.

5) Vertical scroll with a minimum of three separate speeds.

6) Wipe up/wipe down.

7) Wipe left/wipe right.

8) Wipe in a random-dot fashion.

9) Expand horizontally.

10) Expand vertically.

11) Transitions inside special effects shall include "dissolve", and "black hole" effects. Black hole and zoom effects to have user definable directions and origins.

m. Control system to allow designation of "soft" keys for rapid display of standard game conditions.

n. Security Code Access: Passwords shall be available to system users to log into and access the control of the display system.

F. Message Logging Requirements

1. All messages or animations shown on any video display shall be recorded into a Message Log. The Message Log shall be tied into the game controller and statistics memory. Any message or selected number of frames of animation can be retrieved from the Message Log and printed on the system printer.

2. All displayed files, messages or animations shown on any video display shall be recorded into traffic database (log). Note: Logging system should be content priority zone aware and log only content that was visibly displaying on the output.

3. System will store the logging information for a minimum of 30 days.

4. At a minimum every file, message or animation in the traffic database shall provide:

a. A description of the event

b. Title of the message or animation

c. Dates and times of display

d. Date and time of first display

e. Date and time of last display

f. Other dates and times of display

g. duration of display, which display(s) received the message

h. Client (e.g. advertiser, agency or network) associated with message or animation.

i. sub-client information related to the piece (e.g. identifying a specific advertising campaign,

j. Contact information (e.g. name, phone, address, billing codes, etc.)

k. Missed display (e.g. scheduled, but did not occur due to being "pre-empted" by live piece or higher priority material).

l. Traffic reports shall be able to be created based upon user definable fields such as:

1) Client,

2) Element (e.g. file, message, animation, etc.)

3) Daily, weekly, monthly, etc.

m. Traffic reports shall be able to be generated in MS Excel

G. Content Management Solution

1. Ross Solution; Quote: Q-00083379; contact SLEpresales@rossvideo.com

2. Daktronics Solution: Quote: #788245; contact Greg.Fleischbein@daktronics.com

2.5 LED COMMISSIONING SERVICES

A. Test Pattern Requirement

1. Provide a test pattern program file for viewing on all displays in system and configured for each LED display. Test pattern to contain the following repeating items:

a. Full red 10 sec.

b. Numerical grid 5 sec (grid to indicate lighting units/modules)

c. Full blue 10 sec

d. Numerical grid 5 sec

e. Full green 10 sec.

f. Numerical grid 5 sec

g. Full white 10 sec

h. Numerical grid 5 sec.

B. Emergency Message Requirement

1. Provide a special button or "soft" key on keyboard to initiate a minimum of six different stored emergency text messages of Owner's creation, on all displays capable of text.

C. In addition to training noted herein, provide vendor recommended commissioning for the

content playback system, setup at a time coordinated with the Owner

2.6 LED CREATIVE SERVICES

A. Provide a full screen, US flag waving loop able graphic for all displays.

B. Provide 3 football scoring templates for approval of the Owner.

2.7 SUPPORT EQUIPMENT

A. Networked Functions. The following devices should be configured to be shared on a network between individual workstations as well as the Video Replay System:

1. Network Back-up Requirements:

   a. Each computer provided under this contract shall be able to be backed up over the network to shared storage mediums by the Operator and Tenant.

   b. Work with the Owner to establish back-up procedures and directories.

   c. Same system shall be used for imaging all computers.

2. Internet gateway: via network connection to team's computer system

B. KVM

1. Provide transmitters, receivers and matrix cards compatible with current G&D KVM solution as required

2. Reuse of existing KVM systems where possible is encouraged

C. CABLES AND CONNECTORS

1. Video (under 100') and AES-U Cable. Precision video cable, PVC jacketed. Solid center conductor. Color: cable to be ordered in 6 colors (other than black) for each separate cabling system:

   a. Gepco VDM-230

   b. Clark CD7559F

   c. Belden 1855

2. INTRA- ROOM Video. Precision video cable, PVC jacketed. Solid center conductor. Color: cable to be ordered in 6 colors (other than black) for each separate cabling system:

   a. Gepco VSD-2001

   b. Clark CD7559F

c. Belden 1694A

3. CABLE FOR ANY RUNS OUTSIDE OF MAIN EQUIPMENT ROOM. Precision video cable, PVC jacketed. Solid center conductor. Color: cable to be ordered in 6 colors (other than black) for each separate cabling system.

   a. Gepco VHD7000

   b. Clark CD7511DBR

   c. Belden 7855A

4. AES-B Audio Cable

   a. Belden

   b. Clark 801

   c. Gepco DS401

5. XLR type connectors shall incorporate metal shells and bodies and employ a non-hydroscopic dielectric. Panel connectors to be removable from panel front for solder and repair work. Male and Female panel connectors to fit in the same cutout. XLR connectors: Neutrik.

6. F Connector:

   a. Provide commercial style gold plated connector with integral sleeve for F6 Series, F11 Series, and F59 Headend cable.

   b. Provide seal ring in all moisture intensive environments.

   c. Install with manufacturer recommended compression tool.

   d. Provide weatherized boots and seal covers for all antenna connections.

   e. Verify connector cable type, size and construction with manufacturer.

   f. Acceptable product:

      1) Gilbert Engineering GF-US-6Q series, GF-US-11Q, and GF-US-59Q series respectively.

      2) Gilbert Engineering Seal ring: G-SR-1/2.

7. BNC Bulkhead Connections to utilize gold plated center contacts, insulated from panel feed-through connection: Kings

8. BNC cable connections to utilize gold plated center contact, dual crimp connections: Kings

D. DISTRIBUTION GEAR AND SIGNAL PROCESSING

1. Frames and Power Supplies

    a. Frame with cooling fan, network card with 1 power supply

        1) Ross Video

            a) Ross Video OG3-FR-CN with dual power supply

        2) Evertz

            a) Evertz 500FR with dual power supply and 500FC frame controller

            b) Evertz 7800QT

    b. Spare Power Supply:

        1) Mounts in selected Distribution Gear Card Frame

        2) Acceptable product:

            a) Ross PS OG3. (Quantity: 1 for every 4 trays, round fractional numbers up)

            b) Evertz backup/redundant power supply. (Quantity: 1 for every 4 trays, round fractional numbers up)

2. Type 1 Serial Equalizing Amplifier (SDA1)

    a. 1 x 4 General distribution amplifier.

    b. Mounts in selected Distribution Gear Card Frame.

    c. Ross Video

        1) Dual channel solution

            a) Ross Video DEA-8805-R2

        2) Quad Channel solution

            a) Ross Video QRA-8808-R2H

    d. Evertz

        1) Evertz 500DA2Q-HD-N

3. Type 2 Serial Equalizing Amplifier (SDA2):

    a. 1 x 8 General distribution amplifier.

    b. Mounts in selected Distribution Gear Card Frame.

    c. Evertz

1) Evertz 500DA-3G

d. Ross Video

1) Single Channel Solution

a) Ross Video SEA-8803-R2

2) Dual Channel Solution

a) Ross Video DRA-8804-R2H

4. Type 3 Serial Equalizing Amplifier (SDA3):

a. 1x2 General distribution amplifier.

b. Mounts in selected Distribution Gear Card Frame

c. Evertz

1) Evertz 500DA2Q-HD-N

d. Ross Video

1) Single Channel Solution

a) Ross Video SRA-8802-R2

e. Dual Input, Serial Backup Distribution Amplifier (SDAS)

1) Ross Video SRA 8802-R2

E. Type 1 Analog Video Distribution Amplifier (VDA1):

1. Mounts in selected Distribution Gear Card Frame.

2. Acceptable product:

a. Ross Video UDA-8705A-R2

b. Evertz 501ADA-EQ

F. Type 1 HDMI converter (HDMI1)

1. Acceptable products:

a. AJA Hi5-4K-PLUS with appropriate power supply

b. Quantity: As required plus four (4)

G. Type 2 HDMI Converter (HDMI2)

1. AJA HA5-4K

a. Quantity: As required plus four (4)

2.8 SLOW MOTION

A. Slow Motion and Clip Players

1. Connect to existing signal distribution utilized buy current slow motion system

   a. Provide new cables between patch panel and slow motion device.

   b. Provide any new network connectivity required to support solution

   c. If selected solution requires PTP, provide new master clock and sync generator, redundant clock and sync generator and failover unit as well as any required PTP distribution

      1) Distribute sync to existing sync distribution and retime entire system

         a) Refer to BV-V-115 for existing physical connectivity.

      2) Vendors with acceptable Clock and Sync Generator solution:

         a) Evertz

         b) Grass Valley

         c) Imagine Communications

         d) Tektronix

2. Base bid Performance specification

   1)

   a. Slow Motion Record channels:

      1) 20 channels 1080p59.94

      a) Refer to BV-V-103 for existing physical connectivity. Provide any additional connectivity required to support proposed solution

   b. Slow motion playout:

      1) 6 channels 1080p59.94

      a)Refer to BV-V-103 for existing physical connectivity. Provide any additional connectivity required to support proposed solution Clips Playout:

      2) 10 channels 1080p59.94

      a) Refer to BV-V-105 and BV-V-106 for existing physical connectivity. Provide any additional connectivity required to support proposed solution Slow Motion Operator Position

      1) Provide new supporting equipment including (2) touch screen monitors,

Slow Motion operational control devices, and keyboards.

2) Quantity: 3

c. Slow Motion Logging Position

1) Provide new supporting equipment including (2) touch screen monitors, Slow Motion operational control devices, and keyboards.

2) Quantity: 1

d. Clips Operator Position

1) Utilize existing clips operational position equipment

2) Quantity: 1

e. Storage:

1) Provide adequate storage to record all slow motions channels for 10 hours at 1080p60.

f. Stats integration

1) IDM/XML ties

g. Feature Set

1) 4k record and playback capable

a) Keyframable, 4k pan and scan

b) This operation is not expected to be utilized

2) High Frame Rate (6x, 1080p minimum) capable

3) All Players access all recorded content directly

4) File export/import to DNX, ProRes, MPEG I-Frame Only

5) API for clip export

6) Binning/banking of clips to automatically export

7) Synchronous playback across multiple players

8) Players to have Clip name, clip duration, countdown information able to be displayed via existing multiviewers. If existing multiviewers or provided slow motion systems do not support embedded information, provided dedicated character outputs.

9) Production Switcher control of playback--VDCP or AMP

10) Dedicated Controller

h. Include Multiviewer output on IP switch Fabric. Where Slow Motion provides HDMI multi-viewer output, provide HDMI to IP converter in HDR.

3. Vendors with solutions

a. Evertz

1) Evertz contact: Jeff Smith - jsmith@evertz.com

b. EVS

1) EVS contact: Jeff Gouch - j.gouch@evs.com

c. Ross

1) Ross Contact: Kevin Cottam – SLEpresales@rossvideo.com

2.9 CHARACTER GENERATOR

A. Type 1 Character Generator

1. Provide dual channel character generator consisting of (1) fill output and (1) key output per channel

2. Provide ability to ingest external data from scoring system and multiple XML and external HTTP data sources

3. Connect character generator to existing signal distribution in place of existing systems

a. Refer to BV-V-105 for existing physical connectivity. Provide any additional connectivity required to support proposed solution

4. Acceptable Solution

a. Ross Solution

1) Ross Video XST3-0001 (Quantity: 1 per unit)

2) Ross Video XST-CLIP-SERV (Quantity: 1 per unit)

3) Ross Video XST-DLQ – Datalinq (Quantity: 1 per unit)

4) Ross Video XPN-4RU-M8 (Quantity: 1 per unit)

5) Ross Video XPN-CII-CGI-BDL (Quantity: 1 per unit)

6) Keyboard

a) Ross Video XPN-KBD.

b. As Approved

5. Quantity: 3

B. Type 2 Character Generator

1. Provide single channel character generator consisting of (1) fill output and (1) key output per channel

2. Provide ability to ingest external data from scoring system and multiple XML and external HTTP data sources

3. Connect character generator to existing signal distribution in place of existing systems

   a. Refer to BV-V-107 for existing physical connectivity. Provide any additional connectivity required to support proposed solution

4. Acceptable Solution

   a. Ross Solution

      1) Ross Video XST1-0001 (Quantity: 1 per unit)

      2) Ross Video XST-CLIP-SERV (Quantity: 1 per unit)

      3) Ross Video XST-DLQ – Datalinq (Quantity: 1 per unit)

      4) Ross Video XPN-2RU-M8 (Quantity: 1 per unit)

      5) Ross Video XPN-CII-CGI-BDL (Quantity: 1 per unit)

      6) Keyboard

         a) Ross Video XPN-KBD.

   b. As Approved

5. Quantity: 1

2.10 MATRIX INTERCOM

A. Provide new matrix based intercom matrix in place of existing matrix located in rack room.

B. Integrate existing intercom devices into new intercom matrix as currently integrated.

1. Refer to BV-I-101 and BV-I-102 for existing physical connectivity. Provide any additional connectivity required to support proposed solution

2. Note that intercom matrix is split between multiple physical locations and specified solution is to be configured in a ring configuration

C. Commission new intercom matrix to operate identically to existing, recommission existing

panels to support current operations with the new matrixes.

D. Acceptable Solution

1. RTS ODIN Based Solution

a. RTS ODIN 16 Port Matrix F.01U.329.396

1) Quantity: 3

b. RTS ODIN 32 Port Matrix F.01U.329.397

1) Quantity: 1

c. RTS OM-SM SFP ODIN F.01U.351.837

1) Quantity: 10

2.11 MISCELLANEOUS EQUIPMENT REQUIREMENTS

A. Patch Panels:

1. Identification strips to be printed labels of different color for each major connector grouping. Use a combination of colored fonts on white background and black fonts on colored backgrounds.

2. Video and AES (unbalanced) patch panel with normal through patch jacks.

a. Acceptable Products

1) ADC PPI4632RS-MVJ-BK. (Quantity: As required with 10% excess capacity)

2) Equivalent products from AVP and Bittree are also acceptable

B. Patch Cables:

1. Video Patch Cables. Standard Video Patch Cords; each length in a different color

a. ADC is basis of Design; Provide compatible products from others:

1) 2' in length

a) ADC R2V-STM. (Quantity: 20)

2) 3' in length.

a) ADC G3V-STM. (Quantity: 30)

b. Equivalent products from AVP and Bittree are also acceptable

C. Cable, connectors and miscellaneous hardware

1. Video (under 100') and AES-U Cable. Precision video cable, PVC jacketed. Solid center conductor. Color: cable to be ordered in 6 colors (other than black) for each separate cabling system:

   a. Gepco VDM-230

   b. CommScope as approved

   c. Belden 1855

2. INTRA- ROOM Video. Precision video cable, PVC jacketed. Solid center conductor. Color: cable to be ordered in 6 colors (other than black) for each separate cabling system:

   a. Gepco VSD-2001

   b. CommScope as approved

   c. Belden 1694A

3. CABLE FOR ANY RUNS OUTSIDE OF MAIN EQUIPMENT ROOM. Precision video cable, PVC jacketed. Solid center conductor. Color: cable to be ordered in 6 colors (other than black) for each separate cabling system.

   a. Gepco VHD7000

   b. CommScope as approved

   c. Belden 7855A

4. AES-B Audio Cable

   a. Gepco DS401

D. Connectors

1. XLR type connectors shall incorporate metal shells and bodies and employ a non-hydroscopic dielectric. Panel connectors to be removable from panel front for solder and repair work. Male and Female panel connectors to fit in the same cutout. XLR connectors: Neutrik.

2. BNC Bulkhead Connections to utilize gold plated center contacts, insulated from panel feed-through connection: ADC BHFT-1

3. BNC cable connections to utilize gold plated center contact, dual crimp connections: ADC BNC

E. Panels

1. Blank Panels

   a. Type: Flanged.

b. Material: 16 gauge aluminum.

c. Finish: Black brushed anodized.

d. Acceptable product:

1) Middle Atlantic BL series

2. Vent Panels

a. Type: Flanged.

b. Material: 18 gauge steel.

c. Finish: Black power coat finish.

d. Acceptable product:

1) Middle Atlantic VTF series

PART 3 - EXECUTION

3.1 GENERAL

A. All equipment and materials shall be new. Take care during installation to prevent scratches, dents, chips, etc.

B. Mount equipment and enclosures plumb and square. Permanently installed equipment to be firmly and safely held in place. Design equipment supports to support loads imposed with a safety factor of at least three. Seismic bracing shall be installed on appropriate equipment where local codes require such installation.

C. Cover edges of cable pass-through holes in chassis, racks, boxes, etc., with rubber grommets or Brady GRNY nylon grommets.

D. AC Power and Grounding

1. Adhere to all local and national electrical codes and standards.

2. Label power distribution equipment (e.g. breaker panels, disconnects, and load centers) as to what portion of what module is being served by that device (e.g. breaker).

E. All engraving shall be 1/8" block sans serif characters unless noted otherwise. On dark panels or push buttons, letters shall be white; on stainless steel or brushed natural aluminum plates, or light-colored push buttons, letters shall be black.

F. Equipment and Cable Labeling

1. Provide engraved lamicoid labels on the front and rear of active equipment mounted in racks. Mount labels in a neat, plumb and permanent manner. Embossed labels are not acceptable. Equipment labels to have at least three lines of engraving with the first line listing the general name of the device. The second line to include the schematic reference of the device. The bottom line to indicate what other devices or areas this equipment controls.

2. Provide an engraved label over each user-operated control that describes the function or purpose of the control. Label size to be adjusted to fit available space.

3. Engraved labels to have 1/8" high characters minimum. Labels to be black with white characters except where indicated.

4. Cables, and wiring to be logically, legibly and permanently labeled for easy identification. Labels on cables to be adhesive strip type covered with clear heat-shrink tubing. Factory stamped heat shrink tubing may be used in lieu of the adhesive strip style label. Hand-written or self-laminating type labels are not acceptable.

5. Wiring designations to be an alphanumeric code that is unique for each cable. Locate the cable designation at the start and end of each cable run and within 3" of the point of termination or connection. For cable runs that have intermediate splice points, the cable shall have the same designation throughout with an additional suffix to indicate each segment of the run. Actual cable designation assignments to be determined by Installer. Add cable designation codes to system schematic drawings included with Project Record Drawings.

6. Label each terminal strip with a unique identification code in addition to a numerical label for each terminal. Show terminal strip codes on system schematic drawings included with Project Record Drawings.

7. Provide adhesive labels on the rear of equipment where cables attach to indicate the designation of the cable connected at that point.

3.2 SYSTEM WIRING

A. Take precautions to prevent and guard against electromagnetic and electrostatic hum. For line level audio signals, float cable shields at the output of source device. Shields not connected to be folded back over cable jacket and covered with heat-shrink tubing. Do not cut off unused shields.

B. Exercise care in wiring; damaged cables or equipment will not be accepted. Isolate cables of different signals or different levels; and separate, organize, and route to restrict channel crosstalk or feedback oscillation in any amplifier section. Keep wiring separated into groups for microphone level circuits, line level circuits, loudspeaker circuits, and power circuits.

C. Make joints and connections with rosin-core solder or with mechanical connectors approved by the Owner's Consultant; where spade lugs are used, crimp properly with ratchet type tool.

Spade lugs mounted on 22 gauge or smaller cable to be soldered after crimping.

D. Execute wiring in strict adherence to standard professional practice.

E. Neatly lace vertical and horizontal wiring inside rack with lacing bars. Horizontal wiring in rack to be neatly tied in manageable bundles with cable lengths cut to minimize excess cable slack but still allow for service and testing. Provide horizontal support bars if cable bundles sag. Neatly bundle excess AC power cable from rack mounted equipment with velcro cable ties; where short power cables are not available. Rack wiring to be bundled with velcro cable ties or hoop distribution system. Electrical tape and adhesive backed cable tie anchors are not acceptable.

F. Provide adequate service loops so that equipment mounted on rack slides may be pulled fully out, to their locked position without straining cable.

G. All mini-BNC, mini-DIN and RCA/phono connections shall be made directly to the cable in question; whips and adapters are not acceptable.

H. Wiring and connections shall be completely visible and labeled in rack. Termination resistors shall be 1% tolerance; fully visible and not concealed within equipment or connectors.

I. Custom rack panels shall be 1/8" thick aluminum, standard rack sizes, brushed black anodized finish unless otherwise noted. (Brush in direction of aluminum grain only.) Custom connector plate (speaker, microphone, etc.) finishes shall be selected from manufacturer's full range of standard finishes. Plastic plates will not be accepted, even if building standard in other areas.

1. All engraving shall be 1/8" block sans serif characters unless noted otherwise. On dark panels or push buttons, letters shall be white; on stainless steel or brushed natural aluminum plates, or light-colored push buttons, letters shall be black.

J. All patch panels shall be wired so signal "sources" (outputs from devices) appear on the upper row of a row pair; all "loads" (inputs to devices) appear on the lower row of a row pair. All patch panel designation strips shall utilize alphanumeric and descriptive labels. The jack positions in each horizontal row shall be numbered sequentially from left to right. The horizontal jack rows shall be lettered sequentially from top to bottom. The alphanumeric identification of each jack shall be included on the functional block drawings.

K. General Equipment and Cable Labeling:

1. Provide engraved lamicoid labels on the front and rear of active equipment mounted in racks. Mount labels in a neat, plumb and permanent manner. Embossed labels are not acceptable. Equipment labels to have at least three lines of engraving with the first line listing the general name of the device, i.e., COMB GENERATOR, or RF SWITCHER. The second line to include the schematic reference of the device, i.e., COMB GEN, or RF SWITCH. The bottom line to indicate what other devices or areas this equipment

controls, i.e., FEEDS SPLITTER or MONITOR/RECEIVER.

2. Engraved labels to have 1/8" high characters minimum. Labels to be black with white characters except where indicated.

3. Cables and wiring to be logically, legibly and permanently labeled for easy identification. Labels on cables to be adhesive strip type covered with clear heat-shrink tubing. Factory stamped heat shrink tubing may be used in lieu of the adhesive strip style label. Hand- written or self-laminating type labels are not acceptable.

4. Wiring designations to be an alpha-numeric code that is unique for each cable. Locate the cable designation at the start and end of each cable run and within 3" of the point of termination or connection. For cable runs that have intermediate splice points, the cable shall have the same designation throughout with an additional suffix to indicate each segment of the run. Cable labels shall identify source and destination codes on each label. Actual cable designation assignments to be determined by Installer. Add cable designation codes to system schematic drawings included with Project Record Drawings.

5. Label each terminal strip with a unique identification code in addition to a numerical label for each terminal. Show terminal strip codes on system schematic drawings included with Project Record Drawings.

6. Provide adhesive labels on the top and bottom of DC power supplies with the general name of the device they are powering.

7. Provide adhesive labels below each outlet on all power strips indicting which device is being powered.

L. Device labeling shall consist of two types: functional drawing reference and operational naming convention. Device physical labeling shall apply to functional drawings and physical labels on devices, operational naming convention shall allow user to provide flexible labeling between devices and their function (e.g. camera naming/numbering, file server labels).

M. Installation of Cable and Wiring

1. Install cable in a manner to adhere to manufacturer's specifications for maximum cable pulling tension, minimum bend radius, and rigging calculations and restrictions.

2. Provide appropriate support at all horizontal-to-vertical transitions in order to keep the weight of the cable from degrading at the point of transition.

3. Provide splice free wiring and cabling from origination to destination.

4. Make joints and connections with rosin-core solder or with mechanical connectors approved by the Owner's Representative; where spade lugs are used, crimp properly with ratchet type tool.

5. Take precaution to prevent and guard against electromagnetic and electrostatic hum. For line-level audio signal, float cable shield at the output of source device. Shield not connected to be folded back over cable jacket and covered with heat-shrink tubing. Do

not cut off unused shield.

6. Isolate cables and wires of different signals or different levels; and separate, organize, and route to restrict channel crosstalk or feedback oscillation in any amplifier section in compliance with ASDI article 12.3.

7. Cover edges of cable and wire pass-through holes in chassis, housings, boxes, etc., with rubber grommets or Brady GRNY nylon grommetting.

8. Install cable so that a radius bend of no less than ten times the cables OD is maintained.

N. Housing Cabling and Wiring

1. Provide 1'-6" minimum service loop within junction boxes to enable plates to be removed from the junction box and serviced.

2. Install cable and wire neatly tied in manageable bundles with cable lengths cut to minimize excess cable slack but still allow for service and testing. Provide horizontal support bars if cable bundles sag.

3. Cables should be dressed to permit individual plates and panels to be removed, without disturbing adjacent plates or panels.

4. Neatly bundle excess AC power cable from housing mounted equipment with plastic cable ties.

5. Provide plastic cable ties or lacing twine to bundle cabling and wiring. Electrical tape and adhesive backed cable tie anchors are not acceptable.

6. Install with connections completely visible and labeled.

3.3 INSTALLER AND MANUFACTURER TESTS AND ADJUSTMENTS

A. Verify the following before beginning actual tests and adjustments on thesystem:

1. Electronic devices are properly grounded.

2. Powered devices have AC power from the proper circuit and hot, neutral, and ground conductors are connected correctly.

3. Insulation and shrink tubing are present where required.

4. Dust, debris, solder splatter, etc. is removed.

5. Cable is dressed, routed, and labeled; connections are consistent with regard to polarity.

6. LED Content Generation System

   a. Dashboard servers configured to communicate with Controllers, DMPs, LED Video Router and Video Production Switcher

   b. Master & Redundant control servers configured to communicate with all DMPs and redundancy fail over working.

   c. All digital media players configured to be controlled by the master and redundant control servers.

   d. All digital media players outputs rendering synchronous with each other with no evidence of visible video distortion or tearing.

   e. LED compositing systems configured to output the correct canvas to the led processors with all display settings configured and communicating with Dashboard Control Servers and video production switcher.

   f. All messages displayed on visible LED boards recorded in the content logging system.

   g. Multiviewer outputs configured to display master views of all content being displayed on the LED displays

B. Preparation for Acceptance, prior to final inspection:

1. Temporary facilities and utilities shall be properly disconnected, removed and disposed of off-site.

2. All systems, equipment and devices shall be in full and proper adjustment and operation, and properly labeled and identified.

3. All materials shall be neat, clean and unmarred and parts securely attached.

4. All broken work, including glass, raised flooring and supports, ceiling tiles and supports, walls, doors, etc. shall be replaced or properly repaired, and debris cleaned up and discarded.

5. All extra materials, portable equipment, and spares shall be delivered and stored at the premises as directed.

6. All as built documentation, record drawings, operations and maintenance manuals, and test data must be presented prior to or during acceptance as determined by Consultant.

7. LED Control System

   a. Assessment of images rendered by DMPs

   b. Assessment of system connectivity and functionality

   c. Review of animations

   d. Review of scoring and clock functions.

   e. Review of system operation on redundant cabling.

   f. Control functions shall be checked for proper operation, from controlling devices to controlled devices.

   g. Installed and loose equipment will be inventoried for correct quantity.

   h. Testing to include demonstration of Stenograph and Sports Ticker data input capability. Provision of stenograph equipment and operator as required, is the responsibility of the Installer.

   i. Verify proper configuration of the fire alarm interface

3.4 TEST EQUIPMENT

A. Provide test equipment and complete, installed control system for final acceptance testing. Test equipment to be available for the entire period through final system acceptance. Prior to start of testing, provide a list to the Owner's Consultant of test equipment make and model numbers that will be used.

1. Dual-trace oscilloscope: 100 MHz bandwidth, 1 mV/cm sensitivity, TV trigger.

2. Multimeter: Measurement range, DC to 20,000 Hz, 100 mV to 300 V, 10 ma to 10A.

3. Spot photometer: equal to Minolta CS100

4. The following equipment will be needed in the process of acceptance testing. Some of this equipment may exist in the video replay system. The use of the video replay system's components should be confirmed with the Owner and Owner's Consultant. In the event that this equipment is not available, then it shall be provided by installer.

   a. Television test signal generator: Tektronik, Leitch; composite or component depending upon actual connections to display.

   b. Waveform monitor and vectorscope: Tektronik or Videotek; composite or component depending upon actual connections to display. Unit should be portable.

   c. Portable 13" color video monitor: Panasonic BT-H1390Y or Sony PVM-14L2.

3.5 ACCEPTANCE

A. Upon completion of installation and initial tests and report specified in Part 3, acceptance testing shall be performed by the Owner's Consultant.

B. Acceptance testing will include operation of each major system and any other components deemed necessary. Installer will assist in this testing and provide any test equipment required specified herein. Installer shall provide at least 2 technicians available for the entire testing period (day and night), to assist in tests, adjustments, and final modifications. Tools and material required to make any necessary repairs, corrections, or adjustments shall be furnished by the Installer. Testing process is estimated to take a minimum of 3 days. Testing to include demonstration of Stenograph and Sports Ticker/other outside service, data input capability. Provision of stenograph equipment and operator as required, is the responsibility of the Installer.

C. The following procedures will be performed on each System:

   1. Control functions shall be checked for proper operation, from controlling devices to controlled devices.

   2. Adjust, balance, and align equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for each adjustable control with small white, adhesive dots, and record these settings, in the "System Operation and Maintenance Manual."

      a. For physical controls, normal settings shall be marked with small white, adhesive dots.

      b. For software controls, "screen shots" of the relevant menus, pages or dialog boxes shall be made. Additionally software presets shall be recorded to "disc" permitting full recall.

3. Installed and loose equipment will be inventoried for correct quantity.

4. Any other test on any piece of equipment or system deemed appropriate.

5. Testing to include demonstration of Stenograph and Sports Ticker data input capability. Provision of stenograph equipment and operator as required, is the responsibility of the Installer.

D. Display Brightness testing procedure:

1. Screen(s) shall be set at the appropriate brightness level with an NTSC standard (or equivalent) 100% white video signal at input to screen/processor. Screen(s) will be allowed to stabilize, and screen controls shall be adjusted for a uniform brightness across each screen's face.

2. Screen(s) shall be adjusted to the specified color temperature.

3. Brightness level shall be measured using a spot photometer of certified calibration with trained technicians according to the following procedure:

   a. All measurements shall be made in the lowest ambient light attainable. This will necessitate measurement during late hours due to the construction process.

   b. A grid of one vertical and one horizontal line, equally spaced, shall be placed on each video screen to provide for four equivalent rectangular screen areas.

   c. Spot light intensity readings measured in NITS (1 NIT = 1 candela/m^2) shall be taken with a spot photometer set to a 1° measurement circle at a distance of 500 feet normal to screen(s).

   d. Screen(s) will be turned off and four readings shall be taken with an average light established to determine the "black" level.

   e. The difference between the white screen light measurement and the black screen measurement shall establish the brightness in each area and the average of each screen shall establish the overall brightness of each screen.

   f. Horizontal and vertical viewing angles will be measured.

E. In the event the need for further adjustment or work becomes evident during setup and/or acceptance testing, the Installer will continue his work until the system is acceptable at no addition to the contract price. If approval is delayed because of defective equipment, or failure

of equipment or installation to meet the requirements of these specifications, the Installer will pay for additional time and expenses of the Owner and Owner's Consultant.

F. The Owner's Consultant's fees and costs involved in acceptance testing are not the responsibility of the CMS Installer, except as described in Part 3 of this specification.

G. Final acceptance will follow the successful control system operation at the completion of the NFL team's first two regular season home games.

3.6 DEMONSTRATIONS AND TRAINING

A. Provide 180 hours content playback instruction to Owner designated personnel on the use and operation of the System, scheduled as a minimum of 24 separate sessions, by an instructor fully knowledgeable and qualified in system operation. The System Reference Manuals should be complete and on site at the time of this instruction. Coordinate schedule of demonstration with Consultant and Owner. At direction of Operator or tenant, a portion of training time may be deferred to end of, or at any point during the first regular season as follow-up sessions to enhance Owner's ability to maximize performance of system.

B. Provide 40 hours LED Processor instruction to Owner designated personnel on the use and operation of the System, scheduled as a minimum of 6 separate sessions, by an instructor fully knowledgeable and qualified in system operation. The System Reference Manuals should be complete and on site at the time of this instruction. Coordinate schedule of demonstration with Consultant and Owner. At direction of Operator or tenant, a portion of training time may be deferred to end of, or at any point during the first regular season as follow-up sessions to enhance Owner's ability to maximize performance of system.

C. Training Schedules

1. Provide two (2) three (3) day sessions to occur at the facility in the Spring with the balance of the training assumed to take place on the project site. Final schedule at Owner discretion.

2. Training should be scheduled to be non-overlapping, unless agreed to by the Owner.

3. Actual training schedule shall be by agreement with Owner. Do not assume that training will occur over 8 hour days. It is more likely that training will be scheduled in 4 to 6 hour increments; perhaps over a period of weeks (or even months).

4. In the event that a portion of the training time is occupied in troubleshooting the equipment installation, then the training time shall be extended an equal amount of time.

D. The following is a general idea of the training "curriculum":

1. A general familiarization of the Owner's representative(s) of the device.

2. An explanation of how the device interfaces to the rest of the system (including data connections; timing requirements and the like).

3. General training on operating the device.

4. Specific training on device operation (e.g. entering statistics; how to access data retrieval sources; how to create repeatable formats and layouts, changing fonts, loading new fonts).

5. Saving information; backing information up (including a review of the proper procedures for backing up.

6. Basic troubleshooting

7. Specific troubleshooting (this information may be conveyed to personnel other than the device's "operators").

8. How to upgrade software; precautions taken while doing (e.g. backing-up existing software, don't be the first one to try the new software on game day).

E. In addition to training noted above, provide two days of LED Processor commissioning and two days of training and setup at a time coordinated with Owner.

F. In addition to training noted above or within the event support requirements, the software/template trainer shall be present at four NFL games as designated by the Owner.

G. In the event that the LED CMS is used prior to final acceptance, attendance in support of said usage shall not be construed as acceptance, or as event attendance.

END OF
SECTION

Attachment A –
Response Format

To maintain comparability and facilitate the evaluation process, Responses shall be organized in the manner set forth below. Tab delineations for each of the five sections would be helpful.

1) **Title Page:** Include RFP Title, RFP Number, Contractor's full name, address, phone number.

2) **Cover Letter:** Include the following:

- Date of Letter.
- RFP Title and Number.
- Contractor's full name, address and phone number.
- Names of the persons who will be authorized to make representations for the Contractor, their titles, addresses (including email address) and telephone numbers.
- Contractor's Federal Employer ID Number.
- Acknowledgement that (i) the Response is based on the terms set forth in the RFP and all amendments thereto posted on Buyer's website as of the date of the Response, and (ii) the Contractor will be responsible for monitoring Buyer's website for subsequent amendments and for either maintaining, amending or withdrawing the Response prior to the Response Due Date based on those subsequent amendments.
- Signature of Authorized Representative.

3) **Required Forms.** Attach all forms identified in Section 1 or in Attachments C or F, each signed by an authorized representative. Examples of the forms that may be required include:

- Price Sheet. (Form 1)
- Conflict of Interest Certificate. (Form 2)
- Business/Corporate References. (Form 3)
- Equal Business Opportunity Program Forms (if required, in Attachment C).
- Certifications specified in Section 1.4 – Minimum Requirements.

4) **Proof of Minimum Requirements.** Responses will ONLY be accepted from companies meeting the minimum requirements in Section 1.4 of the RFP. Contractor must provide clear documentation on Company letterhead with a maximum of 2 pages of how the minimum requirements will be met.

5) **Statement of Qualifications.** This portion of the Response will be used to provide the information Buyer needs to evaluate how well the Contractor meets the criteria listed in Attachment B – Evaluation Criteria. Failure to provide adequate information on any criterion will result in lower scores and could result in rejection of the Response as non-responsive. Please divide this portion of the Response into subsections that correspond to each of the listed criteria.

Attachment B– Evaluation Criteria

The evaluations will be based upon the following criteria, and Contractors are requested to provide, as a minimum, the information listed under each criterion. Failure to provide adequate information on any criterion will result in lower scores and could result in rejection of the proposal as non-responsive. The response to each of the criterion will be evaluated relative to the other responses received and the contract will be awarded to the highest scoring, responsive, responsible Contractor for the Evaluation Criteria. Contractors are encouraged to arrange their responses in a format that will offer ready review and evaluation of each criterion. Please note that **100** points is the maximum total.

IMPORTANT NOTE: Responses which do not demonstrate that they meet the Requirements listed in Section 4 will not be scored.

MAXIMUM POINTS	EVALUATION CRITERIA
40	Form 1 –LUMP SUM PRICE/PRICE SHEET (The contractor submitting the lowest cost to the City shall receive the maximum number of points for cost, 40 points. Each subsequentially higher cost shall be divided into the lowest cost received and the products score % will be multiplied by the maximum points available to render the points.) Score = (Lowest Bid/The Bid) X 40)
10	Form 3 – Business/Corporate References (more NFL/MLB integrations receive a higher score))
20	Project Plan & Timeline Meet the Requirements (see Section 4)
10	Project Resource Resume & Qualifications (see Section 1.4, Item 1)
20	Presentation of system design and functionality (ease of use and vision)