



**CONTRACT DOCUMENTS
FOR**

**CITY FACILITY AUDIOVISUAL SYSTEM
UPGRADE
CIP PROJECT NO. 337-37259**

**Bid Opening
Wednesday, April 30, 2025 at 2:00 p.m.**

**Location of Bid Submittal:
City Clerk
City Hall
150 City Park Way
Brentwood, CA 94513**

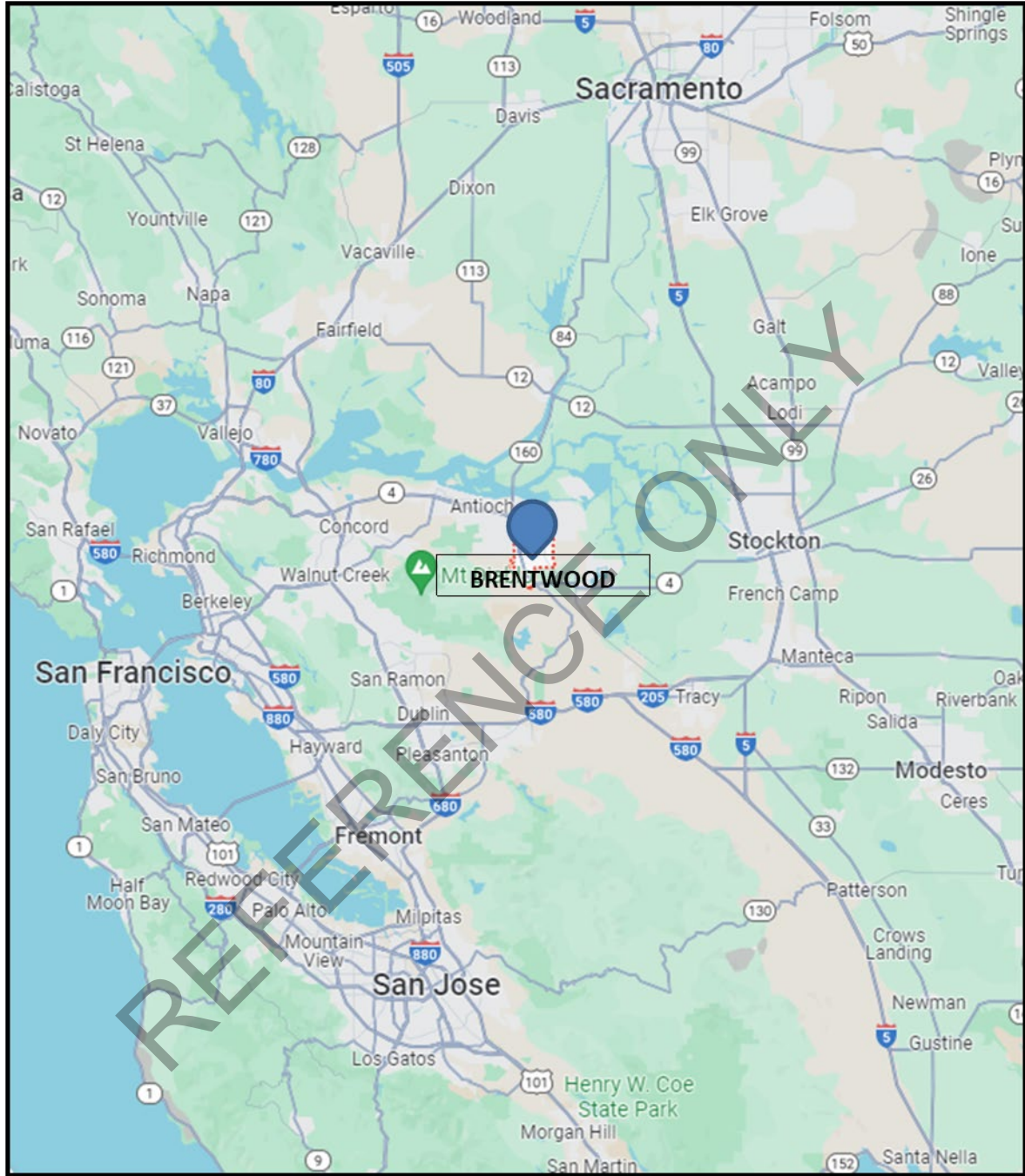
**Approved by:
Kerry Breen
Director of Finance and Information Systems**

Kerry Breen

Signature

April 7, 2025

Date



LOCATION MAP
City of Brentwood

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REFERENCE ONLY

Notice Inviting Bids

1. **Bid Submission.** The City of Brentwood (“City”) will accept sealed bids for its City Facility Audiovisual System Upgrade Project (“Project”), by or before Wednesday April 30, 2025, at 2:00 p.m., at its City Clerk’s office, located at City Hall, third floor, 150 City Park Way, Brentwood, California 94513, at which time the bids will be publicly opened and read aloud at City Hall, Council Chamber, 150 City Park Way, Brentwood, California 94513.

Bids that are hand delivered must be handed directly to the City employee staffing the City Hall third floor window. If the window is not staffed, you must contact the City Clerk by dialing 5440, using the phone at the third floor window, and hand deliver it to the City employee answering the door.

2. **Project Information.**

- 2.1 **Location and Description.** The work to be done consists of furnishing labor, materials, equipment and services for the upgrade of the audiovisual systems, including displays, projectors, speakers, cameras, microphones, networking equipment and other audiovisual components and all miscellaneous work as shown, specified or required for a complete, operational installation.

The locations of the work is as follows in Brentwood, CA:

Community Center Hall and Meeting Room
35 Oak Street

Senior Center Main Hall
193 Griffith Lane

Police Department Delta Room
9100 Brentwood Boulevard

- 2.2 **Time for Final Completion.** The Project must be fully completed within the available timeframes listed below. The City anticipates that the Work will begin on or about October 13, 2025, but the anticipated start date is provided solely for convenience and is neither certain nor binding:

Community Center Hall and Meeting Room: October 13, 2025 – November 30, 2025

Senior Center Main Hall: January 1, 2025 – January 31, 2025

Police Department Delta Room: Within 180 calendar days from the start date set forth in the Notice to Proceed.

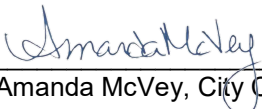
3. **License and Registration Requirements.**

- 3.1 **License.** This Project requires a valid California contractor’s license for the following classification(s): C7 and/or C10
- 3.2 **DIR Registration.** City may not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder is registered with the California Department of Industrial Relations (“DIR”) to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.

4. **Contract Documents.** Bidders must request and obtain an electronic copy of the plans, specifications, bid forms and contract documents for the Project, and any addenda thereto (“Contract Documents”) directly from the City (at no charge) by completing and submitting the “*Document Request Form*” located on the City’s website at: <http://www.brentwoodca.gov/projects-bids-rfps>. The City may reject a bid submitted by a bidder that did not obtain the Contract Documents from the City as required.
5. **Bid Security.** The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier’s or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Potential Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, valid Certificates of Reported Compliance as required under the California Air Resources Board’s In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) (“Off-Road Regulation”), if applicable, and any other submittals required by the Contract Documents, including information regarding local purchases and local labor if required by the Instructions to Bidders, using the form provided with the Notice of Potential Award, and as specified in the Notice of Potential Award.
6. **Prevailing Wage Requirements.**
 - 6.1 **General.** Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.
 - 6.2 **Rates.** The prevailing rates are on file with the City and are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.
 - 6.3 **Compliance.** The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.
7. **Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.
8. **Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.
9. **Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the base bid price) for each Subcontractor that will perform Work or service or fabricate or install Work for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.
10. **Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in

Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

11. **Site Visit.** A site visit will be held on April 15, 2025 at 9:00 a.m., starting at the following location: Brentwood Community Center, 35 Oak Street, Brentwood, California 94513 to acquaint all prospective bidders with the Contract Documents and the Worksite. The site visit is mandatory. A bidder who fails to attend a mandatory site visit may be disqualified from bidding.

By:  Date: March 28, 2025
Amanda McVey, City Clerk

Publication Date: April 4, 2025

END OF NOTICE INVITING BIDS

REFERENCE ONLY

Instructions to Bidders

Each Bid Proposal submitted to the City of Brentwood ("City") for its City Facility Audiovisual System Upgrade Project ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

- 1.1 General.** Each Bid Proposal must be completed, using the form provided in the Contract Documents, signed, and submitted to City in a sealed envelope, with all required forms and attachments, by or before the date and time set forth in Section 1 of the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions will be returned unopened. City reserves the right to postpone the date or time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead.
- 1.2 Bid Envelope.** The sealed envelope containing the Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

BID PROPOSAL:

City Facility Audiovisual System Upgrade Project
Contract No. 337-37259

City Clerk
Attn: Amanda McVey
City of Brentwood
150 City Park Way
Brentwood, CA 94513

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code §§ 1725.5 and 1771.1):

[Contractor company name]
[street address]
[city, state, zip code]
DIR Registration No: _____

- 1.3 DIR Registration.** Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code § 1725.5. If City is unable to confirm that the bidder is currently registered with the DIR, City may disqualify the bidder and return its bid unopened. (Labor Code §§ 1725.5 and 1771.1(a).)
- 2. Bid Proposal Form and Enclosures.** Each Bid Proposal must be completed in ink using the Bid Proposal form included with the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder's authorized

representative. A Bid Proposal submitted with exceptions or terms such as “negotiable,” “will negotiate,” or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Subcontractor List and Non-Collusion Declaration using the forms included with the Contract Documents, and any other required enclosures, as applicable.

- 3. Authorization and Execution.** Each Bid Proposal must be signed by the bidder’s authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal, under California Corporations Code § 313.
- 4. Bid Security.** Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier’s check or certified check, made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California. The bid security must guarantee that, within ten days after issuance of the Notice of Potential Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; submit the insurance certificates and endorsements; and submit valid Certificates of Reported Compliance as required by the Off-Road Regulation, if applicable, and any other submittals, if any, required by the Contract Documents, including information regarding local purchases and local labor if required by these Instructions to Bidders, using the form provided with the Notice of Potential Award, and as specified in the Notice of Potential Award. A Bid Proposal may not be withdrawn for a period of 60 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code § 5100 et seq.
- 5. Requests for Information.** Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to Michael Baria, Chief Information Systems Officer, at itprojects@brentwoodca.gov. Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries no later than 4:00 p.m. at least five Working Days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.
- 6. Pre-Bid Investigation.**

 - 6.1 General.** Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.
 - 6.2 Document Review.** Each bidder is responsible for review of the Contract Documents and any informational documents provided “For Reference Only,” e.g., as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code § 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no

later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.

- 6.3 Project Site.** Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.
- 6.4 Utility Company Standards.** The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.
- 7. Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.
- 8. Addenda.** Subject to the limitations of Public Contract Code § 4104.5, City reserves the right to issue addenda prior to bid time. Any addenda issued prior to the bid opening are part of the Contract Documents. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid. Bidders should check City's website periodically for any addenda or updates on the Project at: <http://www.brentwoodca.gov/projects-bids-rfps>.
- 9. Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after Notice of Potential Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code § 3400(c).
- 10. Bid Protest.** Any bid protest against another bidder must be submitted in writing and received by the City Clerk at 150 City Park Way, Brentwood, CA 94513 or sent via email at CityClerk@brentwoodca.gov before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:

- 10.1 General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. For purposes of this Section 10, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code § 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code § 1771.1(b).
- 10.2 Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.
- 10.3 Copy to Protested Bidder.** Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.
- 10.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.
- 10.5 Copy to Protesting Bidder.** Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 10.6 Exclusive Remedy.** The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of a bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- 10.7 Right to Award.** City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.

- 11. Reservation of Rights.** City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities; to accept or reject any or all bids; to cancel or reschedule the bid; to postpone or abandon the Project entirely; or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 60 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.
- 12. Bonds.** Within ten calendar days following City's issuance of the Notice of Potential Award to the successful bidder, the bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.
- 13. License(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business license within 10 days following City's issuance of the Notice of Potential Award. Subcontractors must also obtain a City business license before performing any Work.
- 14. Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code §§ 1777.1 or 1777.7 is prohibited from performing work on the Project.
- 15. Safety Orders.** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code § 6707.
- 16. In-Use Off-Road Diesel-Fueled Fleets.** If the Project involves the use of vehicles subject to the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), then within ten calendar days following City's issuance of the Notice of Potential Award to the successful bidder, the bidder must submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the Off-Road Regulation, unless exempt under the Off-Road Regulation.
- 17. Subcontractor Work Limits.** The prime contractor must perform at least 70% of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the 70% self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).
- 18. Bid Schedule.** Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.

18.1 Incorrect Totals. In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code § 5100 et seq.

18.2 Estimated Quantities. Unless identified as a "Final Pay Quantity," the quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.

END OF INSTRUCTIONS TO BIDDERS

Bid Proposal

City Facility Audiovisual System Upgrade Project

_____ (“Bidder”) hereby submits this Bid Proposal to the City of Brentwood (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead, for the following price (“Base Bid”):
\$ _____.

2. **Bid Alternates.** Bidder submits the following prices for the specified bid alternated:

Alternate #1: Senior Center – Meeting Room
Add: \$ _____

Alternate #2: Police Department – EOC
Add: \$ _____

Alternate #3: Community Center Hall 1 & 2 Video Conferencing
Add: \$ _____

Alternate #4: Community Center Meeting Rooms 1 & 2 Video Conferencing
Add: \$ _____

Alternate #5: Senior Center Meeting Room Video Conferencing
Add: \$ _____

Alternate #6: Police Department EOC Video Conferencing
Add: \$ _____

3. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this bid. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason. Bidder specifically acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

4. **Bidder’s Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:

4.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder’s knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code § 1104.

- 4.2 Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
- 4.3 Bidder Responsibility.** Bidder is a responsible bidder, with the necessary ability, capacity, experience, skill, qualifications, workforce, equipment, and resources to perform or cause the Work to be performed in accordance with the Contract Documents and within the Contract Time.
- 4.4 Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed bid. All statements and information provided in this Bid Proposal and enclosures are true and correct to the best of Bidder's knowledge.
- 4.5 Nondiscrimination.** In preparing this bid, the Bidder has not engaged in discrimination against any prospective or present employee or Subcontractor on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status.
- 4.6 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Bidder is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.
- 5. Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that, if City issues the Notice of Potential Award to Bidder, then within ten days following issuance of the Notice of Potential Award to Bidder, Bidder will do all of the following:
- 5.1 Execute Contract.** Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;
- 5.2 Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents;
- 5.3 Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents; and
- 5.4 Certificates of Reported Compliance.** Submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, if the Project involves the use of vehicles subject to the Off-Road Regulation. (See Section 16 of the Instructions to Bidders.)
- 5.5 Local Purchase and Labor Information (If Required).** Submit to City information regarding expected local purchases and local labor for the Project, if required by the Instructions to Bidders, using the form provided with the Notice of Potential Award.
- 6. Bid Security.** As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

_____ A cashier's check or certified check payable to City and issued by
 _____ [Bank name] in the amount of
 \$ _____.

_____ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

[Signatures are on the following page]

REFERENCE ONLY

This Bid Proposal is hereby submitted on _____, 2025.

s/ _____

Name and Title

s/ _____
[See Section 3 of Instructions to Bidders]

Name and Title

Company Name

License #, Expiration Date, and Classification

Address

DIR Registration #

City, State, Zip

Phone

Contact Name

Contact Email

END OF BID PROPOSAL

REFERENCE ONLY

Bid Schedule

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal form.

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
 LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs)

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
Community Center – Community Hall 1 & 2					
1	Audio System – Reinforcement	1	LS	\$	\$
2	Assistive Listening	1	LS	\$	\$
3	Video Systems – Presentation	1	LS	\$	\$
4	Control System	1	LS	\$	\$
5	Utility, Plates & Panels	1	LS	\$	\$
Community Center – Meeting Rooms 1 & 2					
6	Audio System – Reinforcement	1	LS	\$	\$
7	Assistive Listening	1	LS	\$	\$
8	Video Systems – Presentation	1	LS	\$	\$
9	Control System	1	LS	\$	\$
10	Utility, Plates & Panels	1	LS	\$	\$
Warranty and Service Level Agreement (SLA)					
11	Annual Warranty after year 2	1	EA	\$	\$
12	Annual SLA	1	EA	\$	\$

TOTAL BASE BID: Items 1 through 12 inclusive: \$ _____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
Bid Alternate #1: Senior Center – Meeting Room					
13	Audio System – Reinforcement	1	LS		
14	Assistive Listening	1	LS		
15	Video Systems - Presentation	1	LS		

16	Control System	1	LS	\$	\$
17	Utility, Plates & Panels	1	LS	\$	\$
Bid Alternate #2: Police Department – EOC					
18	Audio System – Reinforcement	1	LS	\$	\$
19	Assistive Listening	1	LS	\$	\$
20	Video Systems – Presentation	1	LS	\$	\$
21	Control System	1	LS	\$	\$
22	Utility, Plates & Panels	1	LS	\$	\$
Bid Alternate #3: Community Center Hall 1 & 2 Video Conferencing					
23	Video Conferencing	1	LS	\$	\$
Bid Alternate #4: Community Center Meeting Rooms 1 & 2 Video Conferencing					
24	Video Conferencing	1	LS	\$	\$
Bid Alternate #5: Senior Center Meeting Room Video Conferencing					
25	Video Conferencing	1	LS	\$	\$
Bid Alternate #6: Police Department EOC Video Conferencing					
26	Video Conferencing	1	LS	\$	\$

TOTAL BID ALTERNATE #1: Items 13 through 17 inclusive: \$ _____

TOTAL BID ALTERNATE #2: Items 18 through 22 inclusive: \$ _____

TOTAL BID ALTERNATE #3: Item 23 inclusive: \$ _____

TOTAL BID ALTERNATE #4: Item 24 inclusive: \$ _____

TOTAL BID ALTERNATE #5: Item 25 inclusive: \$ _____

TOTAL BID ALTERNATE #6: Item 26 inclusive: \$ _____

GRAND TOTAL BID (BASE BID PLUS ALTERNATES 1 THROUGH 6):

\$ _____

BIDDER NAME: _____

END OF BID SCHEDULE

Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Base Bid,¹ the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the Base Bid price.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	PERCENT OF WORK

REFERENCE ONLY

END OF SUBCONTRACTOR LIST

¹ For street or highway construction, this requirement applies to any subcontract of \$10,000 or more.

Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ [title] of _____
[business name], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

This declaration is intended to comply with California Public Contract Code § 7106 and Title 23 U.S.C § 112.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

s/ _____

Name [print]

END OF NONCOLLUSION DECLARATION

Bid Bond

_____ (“Bidder”) has submitted a bid, dated _____, 2025 (“Bid”), to the City of Brentwood (“City”) for work on the City Facility Audiovisual System Upgrade Project (“Project”). Under this duly executed bid bond (“Bid Bond”), Bidder as Principal and _____, its surety (“Surety”), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the “Bond Sum”). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.
2. **Submittals.** Within ten days following issuance of the Notice of Potential Award to Bidder, Bidder must submit to City the following:
 - 2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents (“Contract Documents”);
 - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
 - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents;
 - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents;
 - 2.5 **Certificates of Reported Compliance.** Valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) (“Off-Road Regulation”), if the Project involves the use of vehicles subject to the Off-Road Regulation; and any other documents required by the Instructions to Bidders or Notice of Potential Award, including the submittal for local purchase and local labor information if required by the Instructions to Bidders, using the form provided with the Notice of Potential Award.
3. **Enforcement.** If Bidder fails to execute the Contract or to submit the bonds, insurance certificates, and valid Certificates of Reported Compliance as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

4. **Duration and Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise, it will remain in full force and effect for 60 days

following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first.
Surety waives the provisions of Civil Code §§ 2819 and 2845.

This Bid Bond is entered into and effective on _____, 2025.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

BIDDER:

Business Name

s/ _____

Date

Name, Title

END OF BID BOND

REFERENCE ONLY

Bidder's Questionnaire

City Facility Audiovisual System Upgrade Project

Within 48 hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form and all required attachments, including clearly labeled additional sheets as needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire as part of its investigation to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part A: General Information

Bidder Business Name: _____ ("Bidder")

Check One: Corporation (State of incorporation: _____)
 Partnership
 Sole Proprietorship
 Joint Venture of: _____
 Other: _____

Main Office Address and Phone: _____

Local Office Address and Phone: _____

Website Address: _____

Owner of Business: _____

Contact Name and Title: _____

Contact Phone and Email: _____

Bidder's California Contractor's License Number(s): _____

Bidder's DIR Registration Number: _____

Part B: Bidder Experience

1. How many years has Bidder been in business under its present business name? _____ years
2. Has Bidder completed projects similar in type and size to this Project as a general contractor?
_____ Yes _____ No
3. Has Bidder ever been disqualified from a bid on grounds that it is not responsible, or otherwise disqualified or debarred from bidding under state or federal law?
_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the disqualification or debarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or debarred, and the month and year in which the disqualification or debarment occurred.

4. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor?

Yes No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

- 5.1 Six most recently completed public works projects within the last three years;
- 5.2 Three largest completed projects within the last three years; and
- 5.3 Any project which is similar to this Project including scope and character of the work.

6. Use separate sheets to provide all of the following information for each project identified in response to the above three categories:

- 6.1 Project name, location, and description;
- 6.2 Owner (name, address, email, and phone number);
- 6.3 Prime contractor, if applicable (name, address, email, and phone number);
- 6.4 Architect or engineer (name, email, and phone number);
- 6.5 Project and/or construction manager (name, email, and phone number);
- 6.6 Scope of work performed (as general contractor or as subcontractor);
- 6.7 Initial contract price and final contract price (including change orders);
- 6.8 Original scheduled completion date and actual date of completion;
- 6.9 Time extensions granted (number of days);
- 6.10 Number and amount of stop notices or mechanic's liens filed;
- 6.11 Amount of any liquidated damages assessed against Bidder; and
- 6.12 Nature and resolution of any project-related claim, lawsuit, mediation, or arbitration involving Bidder.

Part C: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year:

- 2.1 Number of lost workday cases: _____
- 2.2 Number of medical treatment cases: _____
- 2.3 Number of deaths: _____

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

Name Title Email

Part D: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By: _____
Name and Title

END OF BIDDER'S QUESTIONNAIRE

REFERENCE ONLY

Contract

This public works contract ("Contract") is entered into by and between the City of Brentwood ("City") and _____ ("Contractor"), for work on the City Facility Audiovisual System Upgrade Project ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On _____, 2025, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below. City has elected to include the following Project alternate(s) in the Contract:

2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the documents listed below. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, including this Contract.
 - 2.1 Notice Inviting Bids;
 - 2.2 Instructions to Bidders;
 - 2.3 Addenda, if any;
 - 2.4 Bid Proposal and attachments thereto;
 - 2.5 Contract;
 - 2.6 Payment and Performance Bonds;
 - 2.7 General Conditions;
 - 2.8 Special Conditions;
 - 2.9 Project Plans and Specifications;
 - 2.10 Change Orders, if any;
 - 2.11 Notice of Potential Award;
 - 2.12 Notice to Proceed; and
 - 2.13 The following: No other documents.
3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, onsite facilities, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to diligently prosecute and complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.
4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \$ _____ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.
5. **Time for Completion.** Contractor will fully complete the Work for the Project, meeting all requirements for Final Completion, within 180 calendar days from the start date set forth in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.

- 6. Liquidated Damages.** As further specified in Section 5.4 of the General Conditions, if Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of \$2,502.00 per day for each day of unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.
- 7. Labor Code Compliance.**
- 7.1 General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.
- 7.2 Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.
- 7.3 DIR Registration.** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
- 8. Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."
- 9. Conflicts of Interest.** Contractor, its employees, Subcontractors, and agents may not have, maintain, or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.
- 10. Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.
- 11. Notice.** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows:

City:

City of Brentwood
Finance and Information Systems
150 City Park Way

Brentwood, CA 94513
925.516.5425
Attn: Michael Baria, Chief Information Systems Officer
mbaria@brentwoodca.gov

Copy to: Shonna Berry, Technical Assistant II
sberry@brentwoodca.gov

Contractor:

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Attn: _____
Email: _____
Copy to: _____

12. General Provisions.

- 12.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's and City's lawful heirs, successors and permitted assigns.
- 12.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract.
- 12.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the Contra Costa County Superior Court, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure § 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of Contra Costa County, California.
- 12.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 12.5 Integration.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.
- 12.6 Severability.** If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.
- 12.7 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Contractor certifies, by signing below, that it is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.
- 12.8 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporations Code § 313.

12.9 Digital/Electronic Signatures. Using a City-approved method, this Contract may be executed through the use of digital or electronic signatures in accordance with Government Code Section 16.5. The presence of an electronic signature on this Contract will be construed as the Parties' consent to do business electronically.

[Signatures are on the following page.]

REFERENCE ONLY

The parties agree to this Contract as witnessed by the signatures below:

CITY:

Approved as to form:

s/ _____

s/ _____

Tim Y. Ogden, City Manager

Katherine Wisinski, City Attorney

Name, Title

Name, Title

Date: _____

Date: _____

Attest:

s/ _____

Amanda McVey, City Clerk

Name, Title

Date: _____

CONTRACTOR:

Business Name

s/ _____

Seal:

Name, Title

Date: _____

Second Signature (See Section 12.8):

s/ _____

Name, Title

Date: _____

Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT

Payment Bond

The City of Brentwood ("City") and _____ ("Contractor") have entered into a contract for work on the City Facility Audiovisual System Upgrade Project ("Project"). The Contract is incorporated by reference into this Payment Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee in an amount not less than \$ _____, under California Civil Code § 9550 et seq., to ensure payment to authorized claimants. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code § 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code § 13020 with respect to the work and labor, then Surety will pay the obligation.
3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code § 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
5. **Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code § 9550. Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____
6. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Contra Costa County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

[Signatures are on the following page.]

7. **Effective Date; Execution.** This Bond is entered into and is effective on _____, 2025.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

Business Name

s/ _____

Date

Name, Title

APPROVED BY CITY:

City of Brentwood

s/ _____

Date

Tim Y. Ogden, City Manager

Name, Title

REFERENCE ONLY

END OF PAYMENT BOND

Performance Bond

The City of Brentwood ("City") and _____ ("Contractor") have entered into a contract for work on the City Facility Audiovisual System Upgrade Project ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee for an amount not less than \$_____ to ensure Contractor's faithful performance of its obligations under the Contract. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligations.** Surety's obligations are co-extensive with Contractor's obligations under the Contract. If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void. Otherwise, Surety's obligations will remain in full force and effect.
3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845.
4. **Application of Contract Balance.** Upon making a demand on this Bond for completion of the Work prior to acceptance of the Project, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
5. **Contractor Default.** Upon written notification from City of Contractor's termination for default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
 - 5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
 - 5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or
 - 5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
6. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.
7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____

City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

8. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Contra Costa County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
9. **Effective Date; Execution.** This Bond is entered into and effective on _____, 2025.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

Business Name

s/ _____

Date

Name, Title

APPROVED BY CITY:

City of Brentwood

s/ _____

Date

Tim Y. Ogden, City Manager
Name, Title

END OF PERFORMANCE BOND

General Conditions

Article 1 - Definitions

Definitions. The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day,” or “working day.”

Allowance means a specific amount that must be included in the Bid Proposal for a specified purpose.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the municipality which has entered into the Contract with Contractor for performance of the Work, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s).

Claim means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; a written demand by Contractor disputing a unilateral Change Order or a portion thereof; or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal and attachments thereto; the Contract; the Notice of Potential Award and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Plans and Specifications; any Change Orders; and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided “For Reference Only,” or documents that are intended solely to provide information regarding existing conditions.

Contract Price means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies, or equipment following submission of the Bid Proposal.

Contract Time means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

Contractor means the individual, partnership, corporation, or joint venture that has signed the Contract with City to perform the Work.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or other design professional services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

DIR means the California Department of Industrial Relations.

Drawings has the same meaning as Plans.

Engineer means the City Engineer for the City of Brentwood and their authorized delegees.

Excusable Delay is defined in Section 5.3(B), Excusable Delay.

Extra Work means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

Final Completion means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

Furnish means to purchase and deliver for the Project.

Government Code Claim means a claim submitted pursuant to California Government Code § 900 et seq.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

Inspector means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Laws means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

Non-Excusable Delay is defined in Section 5.3(D), Non-Excusable Delay.

Plans means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

Project means the public works project referenced in the Contract, as modified by any Project alternates elected by City, if any.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Recoverable Costs is defined in Section 5.3(F), Recoverable Costs.

Request for Information or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

Section, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

Specialty Work means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

Technical Specifications has the same meaning as Specifications.

Work means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Work Day or **Working Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include holidays observed by the City.

Worksite means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

Article 2 - Roles and Responsibilities

2.1 City.

(A) **City Council.** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) **Engineer.** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including

authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) **Project Manager.** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. Unless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.

(D) **Design Professional.** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.

2.2 Contractor.

(A) **General.** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) **Responsibility for the Work and Risk of Loss.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested, but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism, or theft, subject to the limitations of Laws, including Public Contract Code § 7105.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City,

and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards.** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents, Laws, and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) **Meetings.** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend a pre-construction conference, if requested by City, as well as weekly Project progress meetings scheduled with City. If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) **Construction Records.** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site; primary Work activities; major deliveries; problems encountered, including injuries, if any; weather and site conditions; and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with Subcontractors, and records of meetings with Subcontractors. Upon request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts, or equipment. Workmanship, materials, parts, or equipment that do not conform to the requirements under the Contract Documents, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work

performed without City's prior written approval. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(J) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials, and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's records relating to the Project during Contractor's normal business hours. Contractor's records may also be subject to examination and audit by the California State Auditor, pursuant to Government Code § 8546.7. The record-keeping requirements set forth in this subsection 2.2(J) will survive expiration or termination of the Contract.

(K) **Copies of Project Documents.** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

2.3 Subcontractors.

(A) **General.** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the Subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business license before performing any Work.

(B) **Contractual Obligations.** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code § 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code § 4107(a), City may request removal of the Subcontractor from the Project. Upon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code § 4107, as applicable.

2.4 Coordination of Work.

(A) **Concurrent Work.** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any utility company or agency or another contractor or subcontractor.

(B) **Coordination.** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the

construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

- 2.5 Submittals.** Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.
- (A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.
- (B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.
- (C) **Required Contents.** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).
- (D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal.
- (E) **Effect of Review and Acceptance.** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.
- (F) **Enforcement.** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, or Inspector.
- (G) **Excessive RFIs.** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

- 2.6 Shop Drawings.** When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.
- 2.7 Access to Work.** Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City; and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.
- 2.8 Personnel.** Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. Upon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including Laws pertaining to health and safety. Any such discharged personnel may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

Article 3 - Contract Documents

3.1 Interpretation of Contract Documents.

(A) **Plans and Specifications.** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) **Duty to Notify and Seek Direction.** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy,

omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on Contractor. If Contractor proceeds with the related Work before obtaining City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Articles 5 and 6.)

(C) **Figures and Dimensions.** Figures control over scaled dimensions.

(D) **Technical or Trade Terms.** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) **Measurements.** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) **Compliance with Laws.** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.

3.2 Order of Precedence. Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Attachment B – Federal Contract Requirements (only if used);
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;
- (I) Specifications;
- (J) Plans;
- (K) Notice of Potential Award;
- (L) Notice Inviting Bids;
- (M) Attachment A – Federal Bidding Requirements (only if used);
- (N) Instructions to Bidders;
- (O) Contractor's Bid Proposal and attachments;
- (P) the City's standard specifications, as applicable; and
- (Q) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications or Caltrans Special Provisions.

3.3 Caltrans Standard Specifications. Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"),

including “Standard Specifications,” “Caltrans Specifications,” “State Specifications,” or “CSS,” means the most current edition of Caltrans’ Standard Specifications, unless otherwise specified (“Caltrans Standard Specifications”), including the most current amendments as of the date that Contractor’s bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications or Special Provisions:

(A) **Limitations.** The “General Provisions” of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

(B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) **Meanings.** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:

(1) Any reference to the “Engineer” is deemed to mean the City Engineer.

(2) Any reference to the “Special Provisions” is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.

(3) Any reference to the “Department” or “State” is deemed to mean City.

3.4 For Reference Only. Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as “For Reference Only.” Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.

3.5 Current Versions. Unless otherwise specified by City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code, or regulation in effect on the date that bids were due.

3.6 Conformed Copies. If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor’s responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor’s sole expense.

3.7 Ownership. No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is deemed to have conveyed the copyright in any designs, drawings, specifications, Shop Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

Article 4 - Bonds, Indemnity, and Insurance

- 4.1 Payment and Performance Bonds.** Within ten days following issuance of the Notice of Potential Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, and each executed by Contractor and its surety using the bond forms included with the Contract Documents.
- (A) **Surety.** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.
- (B) **Supplemental Bonds for Increase in Contract Price.** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.
- 4.2 Indemnity.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code § 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.
- 4.3 Insurance.** No later than ten days following issuance of the Notice of Potential Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract, through the date of City's acceptance of the Project. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance will not be construed to limit Contractor's liability under this Contract or to fulfill Contractor's indemnification

obligations under this Contract.

(A) **Policies and Limits.** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) **Commercial General Liability ("CGL") Insurance:** The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protective coverage, contractual liability, products and completed operations, and broad form property damage, with limits of at least \$5,000,000 per occurrence and at least \$10,000,000 general aggregate. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements. This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(2) **Automobile Liability Insurance:** The automobile liability insurance policy must provide coverage of at least \$2,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired and non-owned auto liability.

(3) **Workers' Compensation Insurance and Employer's Liability:** The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least \$1,000,000 or as otherwise required by the statute. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) **Pollution Liability Insurance:** The pollution liability insurance policy must be issued on an occurrence basis, providing coverage of at least \$2,000,000 for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work.

(5) **Builder's Risk Insurance:** The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City.

(6) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(B) **Notice.** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days advance written notice to City, unless due to non-payment of premiums, in which case ten days advance written notice must be made to City.

(C) **Waiver of Subrogation.** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) **Required Endorsements.** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 or equivalent form(s) approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Contractor's Responsibilities.** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of \$100,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) **Subcontractors.** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

Article 5 - Contract Time

5.1 Time is of the Essence. Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) **Authorization.** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

5.2 Schedule Requirements. Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) **Baseline (As-Planned) Schedule.** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials, and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) **Specialized Materials Ordering.** Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase order date(s).

(B) **City's Review of Schedules.** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure

completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) **Progress Schedules.** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) *Float.* The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) *Failure to Submit Schedule.* Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section, or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to five percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code § 7102.

(D) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) **Effect of Acceptance.** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed by City. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) **Posting.** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays, during City's normal business hours, except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

5.3 Delay and Extensions of Contract Time.

(A) **Notice of Delay.** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) **Excusable Delay.** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, or diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) **Weather Delays.** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

(1) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.

(2) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

(3) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) **Non-Excusable Delay.** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight, or diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-

Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

- (1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;
- (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time;
- (3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time;
- (4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor;
- (5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers;
- (6) performance or non-performance by Contractor's Subcontractors or suppliers;
- (7) the time required to respond to excessive RFIs (see Section 2.5(G));
- (8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals;
- (9) time required for repair of, re-testing, or re-inspection of defective Work;
- (10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work; or
- (11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) **Compensable Delay.** Pursuant to Public Contract Code § 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to Weather Delay Days in excess of normal for a given month, as set forth in Section 5.3(C), is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) **Recoverable Costs.** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent

progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) **Request for Extension of Contract Time or Recoverable Costs.** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within 14 calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) **Required Contents.** The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) **Delay Days and Costs.** The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) **Supporting Documentation.** The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) **Burden of Proof.** Contractor has the burden of proving that: the delay was an Excusable Delay or Compensable Delay, as defined above; Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) **Legal Compliance.** Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code § 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor fails to achieve Final Completion within the Contract Time due to Contractor's Non-Excusable Delay, City will charge Contractor in the amount specified in the Contract for each calendar day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegee.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable Delay or Compensable Delay, as set forth above.

(B) **Milestones.** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) **Other Remedies.** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

Article 6 - Contract Modification

6.1 Contract Modification. Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a "no-cost" Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor's warranty obligations pursuant to Article 11 or any obligations of Contractor's bond sureties.

(A) **City-Directed Changes.** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation for cost savings resulting from “value engineering” pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) **Disputes.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute, City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor’s sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) **Extra Work.** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must promptly notify the Engineer in writing, specifically identifying the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit no later than the following Working Day, a daily report of the Extra Work performed that day and the related costs, together with copies of certified payroll, invoices, and other documentation substantiating the costs (“Extra Work Report”). The Engineer will make any adjustments to Contractor’s Extra Work Report(s) based on the Engineer’s records of the Work. When an Extra Work Report(s) is agreed on and signed by both City and Contractor, the Extra Work Report(s) will become the basis for payment under a duly authorized and signed Change Order. Failure to submit the required documentation by close of business on the next Working Day is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) **Minor Changes and RFIs.** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the

Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

6.2 Contractor Change Order Requests. Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within 14 calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. Upon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived."

6.3 Adjustments to Contract Price. The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work, and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented

costs (including restocking fees), reasonably incurred before Contractor was notified of the City's intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) **Lump Sum.** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) **Time and Materials.** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor's performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work) will include allowed markup for overhead, profit, and other indirect costs, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15%:

(1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15% markup;

(2) All direct material costs provided by the Contractor, including sales tax, plus 15% markup;

(3) All direct plant and equipment rental costs provided by the Contractor, plus 15% markup;

(4) All direct additional subcontract costs plus 10% markup for Work performed by Subcontractors; and

(5) Increased bond or insurance premium costs computed at 1.5% of the total of the previous four sums.

6.4 Unilateral Change Order. If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6.5 Non-Compliance Deemed Waiver. Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

Article 7 - General Construction Provisions

7.1 Permits, Fees, Business License, and Taxes.

(A) **Permits, Fees, and City Business License.** Contractor must obtain and pay for all permits, fees, and licenses required to perform the Work, including a City business

license. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses required for the Work.

(B) **Taxes.** Contractor must pay for all taxes on labor, material, and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7.2 Temporary Facilities. Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities may be included in the Specifications or Special Conditions.

(A) **Utilities.** Contractor must install and maintain the power, water, sewer, and all other utilities required for the Project site, including the piping, wiring, internet and wifi connections, and any related equipment necessary to maintain the temporary facilities.

(B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

7.3 Noninterference and Site Management. Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours.

(A) **Offsite Acquisition.** Unless otherwise provided by City, Contractor must acquire, use, and dispose of, at its sole expense, any Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) **Offsite Staging Area and Field Office.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) **Traffic Management.** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise

required to ensure public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, or pedestrian traffic.

7.4 Signs. No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

7.5 Project Site and Nearby Property Protections.

(A) **General.** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work; any Worksite, including the Project site; City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(B) **Securing Project Site.** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and

promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) **Notification of Property Damage.** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project. Contractor must immediately provide a written report to City of any such property damage in excess of \$500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include: (1) the location and nature of the damage, and the owner of the property, if known; (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

7.6 Materials and Equipment.

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices, or processes that are incorporated into the Work. Contractor's

indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights.

7.7 Substitutions.

(A) **“Or Equal.”** Any Specification designating a material, product, or thing (collectively, “item”) or service by specific brand or trade name, followed by the words “or equal,” is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item or service that is used solely for the purpose of describing the type of item or service desired, will be deemed to be followed by the words “or equal.” A substitution will only be approved if it is a true “equal” item or service in every aspect of design, function, and quality, as determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) **Request for Substitution.** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval in advance, within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(C) **Substantiation.** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor’s failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution at Contractor’s sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City’s determination is final.

(E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) **Contractor’s Obligations.** City’s approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7.8 Testing and Inspection.

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and at all locations during construction and/or fabrication, including at any Worksite, shops, and yards. All manufacturers’ application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for testing or inspection. Neither City’s inspection or

testing of Work, nor its failure to do so, operate to waive or limit Contractor's duty to complete the Work in accordance with the Contract Documents.

(B) **Scheduling and Notification.** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor's expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must notify the Engineer no later than noon of the Working Day before any inspection or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor.

(C) **Responsibility for Costs.** City will bear the initial cost of inspection and testing to be performed by independent consultants retained by City, subject to the following exceptions:

- (1) Contractor will be responsible for the costs of any subsequent inspections or tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.
- (2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready, or Contractor fails to appear for a scheduled inspection.
- (3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.
- (4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.
- (5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) **Contractor's Obligations.** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection or testing of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Any Work done without the inspection(s) or testing required by the Contract Documents will be subject to rejection by City.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

7.9 Project Site Conditions and Maintenance. Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in

clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided, and properly maintained and serviced for all workers on the Project site, located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) **Air Emissions Control.** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws. Contractor must comply with all Laws, including the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.).

(B) **Dust and Debris.** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use the minimum necessary. Contractor must take all necessary steps to keep waste water out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) **Clean up.** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) **Disposal.** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) **Completion.** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, signs, landscaping, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must

match the previously existing improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) **Non-Compliance.** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and deduct the cost from any amounts due or to become due to Contractor.

7.10 Instructions and Manuals. Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** The instructions and manuals, along with any required guarantees, must be delivered to City for review prior to requesting final inspection pursuant to Section 11.1(A), unless otherwise specified.

(B) **Training.** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

7.11 As-built Drawings. Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

7.12 Existing Utilities.

(A) **General.** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs

resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) **Unidentified Utilities.** Pursuant to Government Code § 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

7.13 Notice of Excavation. Contractor must comply with all applicable requirements in Government Code § 4216 et seq., which are incorporated by reference herein.

7.14 Trenching and Excavations of Four Feet or More. As required by Public Contract Code § 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in § 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing Laws;

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) **Disputes.** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

- 7.15 Trenching of Five Feet or More.** As required by Labor Code § 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it must be prepared by a California registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.
- 7.16 New Utility Connections.** Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.
- 7.17 Lines and Grades.** Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project. All stakes or marks must be set by a California licensed surveyor or a California registered civil engineer. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.
- 7.18 Historic or Archeological Items.**
- (A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").
- (B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.
- 7.19 Environmental Control.** Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater, and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.
- (A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws governing discharge of stormwater, including applicable municipal stormwater management programs.

7.20 Noise Control. Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

7.21 Mined Materials. Pursuant to Public Contract Code § 20676, Contractor will not purchase any sand, gravel, or other minerals for the Work from an operation subject to the Surface Mining and Reclamation Act of 1975 (Public Resources Code § 2710 et seq.) unless the Contractor certifies, under penalty of perjury, that the minerals are from a mining operation included on the AB 3098 List, which may be accessed online at: <https://www.conservation.ca.gov/smgb/Pages/AB-3098-List.aspx>.

Article 8 - Payment

8.1 Schedule of Values. Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) **Measurements for Unit Price Work.** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) **Deleted or Reduced Work.** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material, or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

8.2 Progress Payments. Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code § 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct or withhold additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), Joint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner specified or within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner specified or within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated cost to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

(J) For any other fines, payments, or penalties assessed against the City relating to Contractor's acts or omissions, including violations of Laws, City may withhold or deduct such amounts from payment otherwise due to Contractor.

(K) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

8.4 Early Occupancy. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

8.5 Retention. City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment of Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work. Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's recordation of the Notice of Completion, subject to the terms of Public Contract Code § 7107.

(A) **Substitution of Securities.** As provided by Public Contract Code § 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code § 22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (g) of Public Contract Code § 22300 ("Escrow Agreement"), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City's rights pursuant to these Contract Documents to withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or backcharges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code § 7107(c).

8.6 Payment to Subcontractors and Suppliers. Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) **Withholding for Stop Notice.** Pursuant to Civil Code § 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.

(B) **Joint Checks.** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney's Office. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

8.7 Final Payment. Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.

8.8 Release of Claims. City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.

8.9 Warranty of Title. Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 - Labor Provisions

9.1 Discrimination Prohibited. Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.

9.2 Labor Code Requirements.

(A) **Eight Hour Day.** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.

(B) **Penalty.** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one

calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.

(C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.

(D) **Notices.** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.

9.3 Prevailing Wages. Each worker performing Work under this Contract that is covered under Labor Code §§ 1720, 1720.3, or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Project site.

(A) **Penalties.** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code §§ 1771.4, 1776, and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for monthly electronic submission of payroll records to the DIR.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct; and

(2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) **Enforcement.** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor

or Subcontractor will forfeit a penalty of \$100.00 per day, or portion thereof, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

- 9.5 Labor Compliance.** Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

Article 10 - Safety Provisions

- 10.1 Safety Precautions and Programs.** Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.

(A) **Reporting Requirements.** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must include: (1) the name and address of the injured or deceased person; (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.

(C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

- 10.2 Hazardous Materials.** Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

10.3 Material Safety. Contractor is solely responsible for complying with § 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

10.4 Hazardous Condition. Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

10.5 Emergencies. In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

Article 11 - Completion and Warranty Provisions

11.1 Final Completion.

(A) **Final Inspection and Punch List.** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) **Requirements for Final Completion.** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) **Acceptance.** The Project will be considered accepted upon City Council action during a public meeting to accept the Project, unless the Engineer is authorized to accept the Project, in which case the Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) **Final Payment and Release of Retention.** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

11.2 Warranty.

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible

Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) **City's Remedies.** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) **Emergency Repairs.** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) **Reimbursement.** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein, in addition to any and all costs City incurs to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion.

(A) **Non-Waiver.** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

11.4 Substantial Completion. For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

Article 12 - Dispute Resolution

12.1 Claims. This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(B) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code § 9204 and § 20104 et seq., which are incorporated by reference herein.

(C) **No Work Delay.** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(D) **Informal Resolution.** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

12.2 Claims Submission. The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing, by registered or certified mail with return receipt requested and clearly identified as a "Claim" submitted pursuant to this Article 12. The Claim must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) **Claim Format and Content.** A Claim must be submitted in the following format:

(1) Provide a cover letter, specifically identifying the submission as a "Claim" submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).

(2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.

(3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for each separate issue or Claim:

- a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
- b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above);
- c. A chronology of relevant events; and
- d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.

(4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known, Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived."

(C) ***Submission Deadlines.***

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 21 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 21 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 21 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. **Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.**

12.3 City's Response. City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) **Non-Waiver.** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Meet and Confer. If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to notify City of the dispute and demand an informal conference to meet and confer in writing within the specified time, Contractor's Claim will be deemed waived.

(A) **Schedule Meet and Confer.** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) **Location for Meet and Confer.** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) **Written Statement After Meet and Confer.** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) **Submission to Mediation.** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

12.5 Mediation and Government Code Claims.

(A) **Mediation.** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract

Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) **Government Code Claims.**

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

- 12.6 Tort Claims.** This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.
- 12.7 Arbitration.** It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.
- 12.8 Burden of Proof and Limitations.** Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.
- 12.9 Legal Proceedings.** In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.
- 12.10 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including

disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13 - Suspension and Termination

13.1 Suspension for Cause. In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.

(A) **Notice of Suspension.** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension; comply with directions for cleaning and securing the Worksite; and protect the completed and in-progress Work and materials. Contractor is solely responsible for any damages or loss resulting from its failure to adequately secure and protect the Project.

(B) **Resumption of Work.** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified; and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.

(C) **Failure to Comply.** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(D) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

13.2 Suspension for Convenience. City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

13.3 Termination for Default. City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) **Default.** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; Contractor's refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage; Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project; evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time; suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration; dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity; unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) **Notice of Default and Opportunity to Cure.** Upon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) **Termination.** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contractor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) **Compensation.** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) **Wrongful Termination.** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including special or consequential damages, lost opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

13.4 Termination for Convenience. City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) **Compensation to Contractor.** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) **Completed Work.** The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) **Demobilization.** Demobilization costs specified in the schedule of values, or if demobilization costs were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs; and

(3) **Termination Markup.** Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) **Disputes.** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

13.5 Actions Upon Termination for Default or Convenience. The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) **General.** Upon termination, City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) **Submittals.** Unless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) **Close Out Requirements.** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following:

- (1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksite(s).
- (2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.
- (3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.
- (4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.
- (5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) **Payment Upon Termination.** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance with the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor; payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged; and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) **Continuing Obligations.** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

Article 14 - Miscellaneous Provisions

14.1 Assignment of Unfair Business Practice Claims. Under Public Contract Code § 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.

14.2 Provisions Deemed Inserted. Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.

- 14.3 Waiver.** City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that bids were due.
- 14.6 Survival.** The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6 of Section 12, General Provisions; and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7, Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

Special Conditions

1. **Authorized Work Days and Hours.**
 - 1.1 **Authorized Work Days.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City: Monday – Friday.
 - 1.2 **Authorized Work Hours.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project during the following hours: 8:00 a.m. to 5:00 p.m.
2. **Pre-Construction Conference.** City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed, and Contractor must present City with the following information or documents at the meeting for City's review and acceptance before the Work commences:
 - 2.1 Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;
 - 2.2 List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;
 - 2.3 Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;
 - 2.4 Draft baseline schedule for the Work as required under Section 5.2 of the General Conditions, to be finalized within ten days after City issues the Notice to Proceed;
 - 2.5 Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;
 - 2.6 Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;
 - 2.7 Any other documents specified in the Special Conditions or Notice of Potential Award.
3. **Insurance Requirements.** The insurance requirements under Section 4.3 of the General Conditions are modified for this Contract, as set forth below. Except as expressly stated below, all other provisions in Section 4.3 are unchanged and remain in full force and effect.
 - 3.1 **Pollution Liability Insurance Waived.** The pollution liability insurance policy requirement set forth in subsection 4.3(A)(4) of the General Conditions is hereby waived and does not apply to this Contract.
 - 3.2 **Builders Risk Insurance Waived.** The builder's risk insurance policy requirement set forth in subsection 4.3(A)(5) of the General Conditions is hereby waived and does not apply to this Contract.

END OF SPECIAL CONDITIONS

REFERENCE ONLY

SECTION 098433
SOUND-ABSORBING WALL UNITS

ADD ALTERNATE #1

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes shop-fabricated, acoustical panel units tested for acoustical performance, including the following:
 - 1. Sound-absorbing wall panels.

1.2 DEFINITIONS

- A. NRC: Noise Reduction Coefficient.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include fabric facing,] panel edge, core material, and mounting indicated.
- B. Shop Drawings: For unit assembly and installation.
 - 1. Include plans, elevations, sections, and mounting devices and details.
 - 2. Include details at panel head, base, joints, and corners; and details at ceiling, floor base, and wall intersections. Indicate panel edge profile and core materials.
 - 3. Include details at cutouts and penetrations for other work.
 - 4. Include direction of fabric weave and pattern matching.
- C. Samples for Initial Selection: For each type of fabric facing.
- D. Samples for Verification: For the following products:
 - 1. Fabric: 12 inch by 12 inch sample, but not smaller than required to show complete pattern repeat, from dye lot to be used for the Work, and with specified treatments applied. Mark top and face of fabric.
 - 2. Panel Edge: 12-inch- (300-mm-) long Sample(s) showing each edge profile, corner, and finish.
 - 3. Core Material: 12-inch- (300-mm-) square Sample at corner.
 - 4. Mounting Devices: Full-size Samples.
 - 5. Assembled Panels: Approximately 12 inches by 12 inches, including joints and mounting methods.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Elevations and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Electrical outlets, switches, and thermostats.
- B. Product Certificates: For each type of unit.
- C. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of unit to include in maintenance manuals. Include fabric manufacturers' written cleaning and stain-removal instructions.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials from same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fabric: For each fabric, color, and pattern installed, provide length equal to 10 percent of amount installed, but no fewer than 10 sq. yd. (9 sq. m), full width of bolt.
 - 2. Mounting Devices: Full-size units equal to 5 percent of amount installed, but no fewer than five devices, including unopened adhesives.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with fabric and unit manufacturers' written instructions for minimum and maximum temperature and humidity requirements for shipment, storage, and handling.
- B. Deliver materials and units in unopened bundles and store in a temperature-controlled dry place with adequate air circulation.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not install units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work at and above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Lighting: Do not install units until a permanent level of lighting is provided on surfaces to receive the units.
- C. Air-Quality Limitations: Protect units from exposure to airborne odors, such as tobacco smoke, and install units under conditions free from odor contamination of ambient air.

- D. Field Measurements: Verify unit locations and actual dimensions of openings and penetrations by field measurements before fabrication, and indicate them on Shop Drawings.

1.9 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace units and components that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to the following:
 - a. Acoustical performance.
 - b. Fabric sagging, distorting, or releasing from panel edge.
 - c. Warping of core.
 - 2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain wall units specified in this Section from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: Units shall comply with "Surface-Burning Characteristics" or "Fire Growth Contribution" Subparagraph below, or both, as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Surface-Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 2. Fire Growth Contribution: Comply with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 265 Method B Protocol or NFPA 286.

2.3 SOUND-ABSORBING WALL UNITS

- A. Sound-Absorbing Wall Panel: Manufacturer's standard panel construction consisting of facing material laminated to front face, edges, and back edge border of core.

- B. Subject to compliance with requirements, provide:
1. Acoustical Surfaces, Inc.
 2. Decoustics Saint Gobain
 3. Or approved equal.
- C. Panel Shape: Flat.
- D. Mounting: Back mounted with manufacturer's standard metal clips or bar hangers as shown on Drawings, secured to substrate.
- E. Core: Manufacturer's standard.
- F. Core-Face Layer: Manufacturer's standard impact-resistant, acoustically transparent, copolymer sheet.
- G. Edge Construction: Manufacturer's standard chemically hardened core with no frame.
- H. Edge Profile: Square.
- I. Facing Material: Fabric.
- J. Acoustical Performance: Sound absorption NRC not less than 0.90 according to ASTM C 423 for Type A mounting according to ASTM E 795.
- K. Nominal Overall Panel Thickness: As indicated on Drawings.
- L. Panel Width: As indicated on Drawings.
- M. Panel Height: As indicated on Drawings.

2.4 MATERIALS

- A. Core Materials:
1. Glass-Fiber Board: ASTM C 612; of type standard with manufacturer; nominal density of 6 to 7 lb/cu. ft. (96 to 112 kg/cu. m), unfaced, and dimensionally stable, molded rigid board; and with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
 2. Impact-Resistant, Acoustically Transparent, Copolymer Sheet for Face Layer: 1/16- to 1/8-inch- (1.6- to 3.2-mm-) thick layer of perforated, noncombustible, copolymer sheet laminated to face of core.
- B. Facing Material: Fabric from same dye lot; color and pattern as selected by Architect from manufacturer's full range.
1. Fabric Manufacturer:

- a. Guilford of Maine FR701.
 - b. Or approved equal.
- C. Mounting Devices: Concealed on back of unit, recommended by manufacturer to support weight of unit, and as follows:
1. Metal Clips or Bar Hangers: Manufacturer's standard two-part metal "Z" clips, with one part of each clip mechanically attached to back of unit and the other part to substrate, designed to permit unit removal.

2.5 FABRICATION

- A. Standard Construction: Use manufacturer's standard construction unless otherwise indicated; with facing material applied to face, edges, and back border of dimensionally stable core; and with rigid edges to reinforce panel perimeter against warpage and damage.
- B. Edge Hardening: For glass-fiber board cores, chemically harden core edges and areas of core where mounting devices are attached.
- C. Core-Face Layer: Evenly stretched over core face and edges and securely attached to core; free from puckers, ripples, wrinkles, or sags.
- D. Facing Material: Apply fabric facing fully covering visible surfaces of unit; with material stretched straight, on the grain, tight, square, and free from puckers, ripples, wrinkles, sags, blisters, seams, adhesive, or other visible distortions or foreign matter.
1. Square Corners: Tailor corners.
 2. Fabrics with Directional or Repeating Patterns or Directional Weave: Mark fabric top and attach fabric in same direction so pattern or weave matches in adjacent units.
- E. Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch (1.6 mm) for the following:
1. Thickness.
 2. Edge straightness.
 3. Overall length and width.
 4. Squareness from corner to corner.
 5. Chords, radii, and diameters.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fabric, fabricated units, substrates, areas, and conditions for compliance with requirements, installation tolerances, and other conditions affecting unit performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install units in locations indicated. Unless otherwise indicated, install units with vertical surfaces and edges plumb, top edges level and in alignment with other units, faces flush, and scribed to fit adjoining work accurately at borders and at penetrations.
- B. Comply with manufacturer's written instructions for installation of units using type of mounting devices indicated. Mount units securely to supporting substrate.
- C. Align fabric pattern and grain with adjacent units.

3.3 INSTALLATION TOLERANCES

- A. Variation from Plumb and Level: Plus or minus 1/16 inch (1.6 mm) in 48 inches (1200 mm), noncumulative.

3.4 CLEANING

- A. Clip loose threads; remove pills and extraneous materials.
- B. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.

END OF SECTION 098433

SECTION 260010

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Table of Contents, Division 26 - Electrical:

<u>SECTION NO.</u>	<u>SECTION TITLE</u>
260010	BASIC ELECTRICAL REQUIREMENTS
260519	BUILDING WIRE AND CABLE
260531	CONDUIT
260553	ELECTRICAL IDENTIFICATION
262726	WIRING DEVICES

B. Work included: This Section includes general administrative and procedural requirements for Division 26. The following administrative and procedural requirements are included in this Section to supplement the requirements specified in Division 01.

1. Quality assurance.
2. Definition of terms.
3. Submittals.
4. Coordination.
5. Record documents.
6. Operation and maintenance manuals.
7. Rough-in.
8. Electrical installation.
9. Cutting, patching, painting, and sealing.
10. Field quality control.
11. Cleaning.
12. Project closeout.

C. Related Work: Consult all other Sections, determine the extent and character of related Work, and properly coordinate Work specified herein with that specified elsewhere to produce a complete and operable installation.

1. General and supplementary conditions: Drawings and general provisions of Contract and Division 01 of the Specifications, apply to all Division 26 Sections.
2. Selective demolition: Nondestructive removal of materials and equipment for reuse or salvage as indicated. Also dismantling electrical materials and equipment made obsolete by these installations. Refer to Division 02, Selective Demolition.
3. Concrete work: Include forming, steel bar reinforcing, cast-in-place concrete, finishing and grouting as required for underground conduit encasement, light pole foundations, pull box slabs, vaults, housekeeping pads, etc. Also includes

setting of floor boxes in existing concrete slabs, saw-cutting of existing slabs and grouting of conduits in saw-cut. Refer to Division 03, Concrete.

4. Miscellaneous metal work: Include fittings, brackets, backing, supports, rods, welding and pipe as required for support and bracing of raceways, luminaires, panelboards, distribution boards, switchboards, motor control centers, etc. Refer to Division 05, Miscellaneous Metals.
5. Painting: Include surface preparation, priming and finish coating as required for electrical cabinets, exposed conduit, pull and junction boxes, etc. where indicated as field painted in this Division. Refer to Division 09, Painting.

1.02 QUALITY ASSURANCE

- A. Reference to Codes, Standards, Specifications and recommendations of technical societies, trade organizations and governmental agencies shall mean that latest edition of such publications adopted and published prior to submittal of the bid. Such codes or standards shall be considered a part of this Specification as though fully repeated herein.
- B. When codes, standards, regulations, etc. allow Work of lesser quality or extent than is specified under this Division, nothing in said codes shall be construed or inferred authority for reducing the quality, requirements, or extent of the Contract Documents. The Contract Documents address the minimum requirements for construction.
- C. Work shall be performed in accordance with all applicable requirements of the latest edition of all governing codes, rules and regulations including but not limited to the following minimum standards, whether statutory or not:
 1. California Electrical Code (CEC).
 2. California Building Code (CBC).
 3. California Fire Code (CFC).
- D. Standards: Equipment and materials specified under this Division shall conform to the following standards where applicable:

ACI	American Concrete Institute
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
CBM	Certified Ballast Manufacturers
FS	Federal Specification
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IPCEA	Insulated Power Cable Engineer Association
NEMA	National Electrical Manufacturer's Association
UL	Underwriters' Laboratories
- E. Independent Testing Agency qualifications:
 1. Testing Agency shall be an independent testing organization that will function as an unbiased authority, professionally independent of Manufacturer, Supplier and Contractor, furnishing and installing equipment or system evaluated by Testing Agency.
 2. Testing Agency shall be regularly engaged in the testing of electrical equipment, devices, installations, and systems.

3. Testing Agency shall meet Federal Occupational Safety and Health Administration (OSHA) requirements for accreditation of independent testing laboratories, Title 9, Part 1907.
 4. On-site technical personnel shall be currently certified by the International Electrical Testing Association in electrical power distribution system testing.
 5. Testing Agency shall use technicians who are regularly employed by the firm for testing services.
 6. Contractor shall submit proof of above Testing Agency qualifications with bid documentation upon request.
- F. All base material shall be ASTM and/or ANSI standards.
- G. All electrical apparatus furnished under this Section shall conform to NEMA standards and the CEC and bear the UL label where such label is applicable.
- H. Certify that each welder performing Work has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone re-certification.

1.03 DEFINITION OF TERMS

- A. The following list of terms as used in the Division 26 documents shall be defined as follows:
1. "Provide": Shall mean furnish, install, and connect unless otherwise indicated.
 2. "Furnish": Shall mean purchase and deliver to Project site.
 3. "Install": Shall mean to physically install the items in-place.
 4. "Connect": Shall mean make final electrical connections for a complete operating piece of equipment.
 5. "As directed": Shall be as directed by the Owner or their authorized Representative.
 6. "Utility Companies": Shall mean the company providing electrical, telephone or cable television services to the Project.

1.04 SUBMITTALS

- A. Format: Furnish submittal data in electronic format for each Specification Section with a table of contents listing materials by Section and paragraph number.
- B. Submittals shall consist of detailed Shop Drawings, Specifications, block wiring diagrams, "catalog cuts" and data sheets containing physical and dimensional information, performance data, electrical characteristics, materials used in fabrication and material finish. Clearly indicate by arrows or brackets precisely what is being submitted on and those optional accessories which are included and those which are excluded. Furnish quantities of each submittal as noted in Division 01.
- C. Each submittal shall be labeled with the Specification Section Number and shall be accompanied by a cover letter or shall bear a stamp stating that the submittal has been thoroughly reviewed by the Contractor and is in full compliance with the requirements of the Contract Documents or provide a Specification Section line-by-line compliance response statement with detailed exception/ deviation response statements for all applicable provisions for the applicable Specification Section. Any Specification Section lines without a detailed exception/ deviation response statement shall be treated as the Contractor or Vendor is submitting in full

compliance with the applicable Specification Section requirements. Cover letters shall list in full the items and data submitted. Failure to comply with this requirement shall constitute grounds for rejection of data.

- D. Review of submittals is for general conformance to design concept and general compliance with the Specification Sections. Submittal Review Comments do not imply waiver of Specifications Section requirements unless specifically noted.
- E. All resubmittals shall include a cover letter that lists the action taken and revisions made to each Drawing and equipment data sheet in response to Submittal Review Comments. Resubmittal packages will not be reviewed unless accompanied by this cover letter. Failure to include this cover letter will constitute rejection of the resubmittal package.

1.05 COORDINATION

A. Discrepancies:

- 1. In the event of discrepancies within the Contract Documents, the Engineer shall be so notified, within sufficient time, as delineated in Division 01, prior to the Bid Opening to allow the issuance of an Addendum.
- 2. If, in the event that time does not permit notification or clarification of discrepancies prior to the Bid Opening, the following shall apply: The Drawings govern in matters of quantity and the Specifications govern in matters of quality. In the event of conflict within the Drawings involving quantities or within the Specifications involving quantities or within the Specifications involving quality, the greater quantity and higher quality shall apply. Such discrepancies shall be noted and clarified in the Contractor's Bid. No additional allowances will be made because of errors, ambiguities or omissions that reasonably should have been discovered during the preparation of the Bid.

B. Project conditions:

- 1. Examination of Project site: The Contractor shall visit the Project site and thoroughly review the locale, working conditions, conflicting utilities, and the conditions in which the Electrical Work will take place. Verify all existing conditions in the field. No allowances will be made subsequently for any costs that may be incurred because of any error or omission due to failure to examine the Project site and to notify the Engineer of any discrepancies between Contract Documents and actual Project site conditions.
- 2. Protection: Keep conduits, junction boxes, outlet boxes and other openings closed to prevent entry of foreign matter. Cover fixtures, equipment, devices, and apparatus and protect them against dirt, paint, water, chemical or mechanical damage, before and during construction period. Prior to final acceptance, restore to original condition any fixture, apparatus or equipment damaged including restoration of damaged factory applied painted finishes. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.
- 3. Supervision: Contractor shall personally or through an authorized and competent representative constantly supervise the Work from beginning to completion and, within reason, keep the same foreman and workmen on the Project throughout the Project duration.

C. Preparation:

1. Drawings:
 - a. Layout: General layout indicated on the Drawings shall be followed except where other Work may conflict with the Drawings.
 - b. Accuracy: Drawings for the Work under this Section are essentially diagrammatic within the constraints of the symbology applied.

1.06 RECORD DOCUMENTS

A. Provide Project Record Drawings as described herein:

1. Drawings shall fully represent installed conditions including actual locations of outlets, true panelboard connections following phase balancing routines, correct conduit, and wire sizing as well as routing, revised luminaire schedule listing Manufacturers and products installed and revised panel schedules. Contractor shall record all changes in the Work during the course of construction on blue or black line prints. These prints shall be made subject of monthly review by the Owner's Representative to ascertain that they are current. If not current, monthly payments may be withheld.

B. Panel schedules:

1. Typewritten panel schedules shall be provided for panelboards indicating the loads served and the correct branch circuit number. Schedules shall be prepared on forms provided by the Manufacturer and inserted in the pocket of the inner door of each panelboard.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 ROUGH-IN

- A. Contractor shall verify lines, levels and dimensions indicated on the Drawings and shall be responsible for the accuracy of the setting out of Work and for its strict conformance with existing conditions at the Project site.
- B. Verify final locations for rough ins with field measurements and with the requirements for the actual equipment to be connected.
- C. Refer to equipment specification in Divisions 22 through 33 for rough-in requirements.

3.02 ELECTRICAL INSTALLATION

- A. Preparation, sequencing, handling, and installation shall be in accordance with Manufacturer's written instructions and technical data particular to the product specified and/or accepted equal except as otherwise specified. Comply with the following requirements:
 1. Shop Drawings prepared by Manufacturer.
 2. Verify all dimensions by field measurements.
 3. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for electrical installations.
 4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.

5. Sequence, coordinate and integrate installations of electrical materials and equipment for efficient flow of the Work. Give attention to large equipment requiring positioning prior to closing in the building.
6. Where mounting height is not detailed or dimensioned, contact the Architect for direction prior to proceeding with rough-in.
7. Install systems, materials, and equipment to conform with approved submittal data, including coordination Drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are indicated only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Architect.
8. Install systems, materials, and equipment level and plumb, parallel, and perpendicular to other building systems and components, where installed exposed in finished spaces.
9. Install electrical equipment to facilitate servicing, maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.
10. Coordinate electrical systems, equipment, and materials installations with other building components.
11. Provide access panel or doors where devices or equipment are concealed behind finished surfaces. Furnish and install access doors per the requirements of Division 08.
12. Install systems, materials and equipment giving right-of-way priority to other systems that are required to maintain a specified slope.
13. Conform to the National Electrical Contractors Association "Standard of Installation" for general installation practice.

3.03 CUTTING, PATCHING, PAINTING AND SEALING

- A. Structural members shall in no case be drilled, bored, or notched in such a manner that will impair their structural value. Cutting of holes, if required, shall be done with core drill and only with the approval of the Architect and Structural Engineer.
- B. Protection of Installed Work: During cutting and patching operations, protect adjacent installations.

3.04 FIELD QUALITY CONTROL

- A. General testing requirements:
 1. The purpose of testing is to ensure that all tested electrical equipment, both Contractor and Owner supplied, is operational and within industry and Manufacturer's tolerances and is installed in accordance with design Specifications.
 2. Tests and inspections shall determine suitability for energization.
 3. Perform tests in presence of the Owner's Representative and furnish test equipment, facilities and technical personnel required to perform tests.
 4. Tests shall be conducted during the construction period and at completion to determine conformity with applicable codes and with these Specifications.

- B. Tests: In addition to specific system test described elsewhere, tests shall include:
1. Circuit numbering verification: Select on a random basis, various circuit breakers within the panelboards and cycle them on and off to verify compliance of the typed panel directories with actual field wiring.
 2. Voltage check:
 - a. At completion of job, check voltage at several points of utilization on the system that has been installed under this Contract. During test, energize all installed loads.
 - b. If proper voltage cannot be obtained, inform the Owner and the serving Utility Company.
- C. Contractor shall provide test power required when testing equipment before service energization and coordinate availability of test power with General Contractor after service energization. The Contractor shall provide any specialized test power as needed or specified herein.
- D. Testing safety and precautions:
1. Safety practices shall include the following requirements:
 - a. Applicable State and Local safety operating procedures.
 - b. OSHA.
 - c. NSC.
 - d. NFPA 70E.
 2. All tests shall be performed with apparatus de-energized and grounded except where otherwise specifically required ungrounded by test procedure.
- E. Calibration of test equipment:
1. Testing Agency shall have calibration program that assures test instruments are maintained within rated accuracy.
 2. Instruments shall be calibrated in accordance with the following frequency schedule:
 - a. Field instruments: Analog, 6-months maximum; Digital, 12-months maximum.
 - b. Laboratory instruments: 12-months.
 - c. Leased specialty equipment: 12-months where accuracy is guaranteed by lessor.
 3. Dated calibration labels shall be visible on test equipment.
 4. Records, which show date and results of instruments calibrated or tested, must be kept up to date.
 5. Up-to-date instrument calibration instructions and procedures shall be maintained for test instrument.
 6. Calibration standards shall be of higher accuracy than instrument tested.
 7. Equipment used for field testing shall be more accurate than instrument being tested.

- F. Coordinate with General Contractor regarding testing schedule and availability of equipment ready for testing.
- G. Notify Owner and Engineer one week in advance of any testing.
- H. Any products which fail during the tests or are ruled unsatisfactory by the Owner's Representative shall be replaced, repaired, or corrected as prescribed by the Owner's Representative at the expense of the Contractor. Tests shall be performed after repairs, replacements or corrections until satisfactory performance is demonstrated.
- I. Testing Agency shall maintain written record of tests and shall assemble and certify final test report.
- J. Include all test results in the maintenance manuals.

3.05 CLEANING

- A. Prior to energizing of electrical equipment, the Contractor shall thoroughly clean the interior of enclosures from construction debris, scrap wire, etc. using Manufacturer's approved methods and materials.
- B. Upon completion of Project, prior to final acceptance, the Contractor shall thoroughly clean both the interior and exterior of all electrical equipment per Manufacturers approved methods and materials. Remove paint splatters and other spots, dirt, and debris.
- C. Touch-up paint any marks, blemishes or other finish damage suffered during installation.

END OF SECTION

SECTION 260519 - BUILDING WIRE AND CABLE

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Labor, materials, and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
 - 1. Building wire.
- B. Related Work: Consult all other Sections, determine the extent and character of related Work, and properly coordinate Work specified herein with that specified elsewhere to produce a complete installation.

1.2 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
 - 1. Underwriters Laboratories, Inc. (UL):
 - UL 44; Thermoset-Insulated Wires and Cables.
 - UL 83; Thermoplastic-Insulated Wires and Cables.
 - 2. National Electrical Manufacturer Association (NEMA):
 - NEMA WC-70; Power Cables Rated 2,000 V or Less for the Distribution of Electrical Energy.
 - 3. Institute of Electrical and Electronic Engineers (IEEE):
 - IEEE 82; Test Procedure for Impulse Voltage Tests on Insulated Conductors.
 - IEEE 576; Recommended Practice for Installation, Termination, and Testing of Insulated Power Cable as Used in Industrial and Commercial Applications.

1.3 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
 - 1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 - 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 - 3. Submit Manufacturer's installation instructions.
 - 4. Final test results.

1.4 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused, and currently under production.

- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted.
- C. Independent Testing Agency qualifications: Refer to Section 260010: Basic Electrical Requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
 - 1. Building wire:
 - a. Cerrowire
 - b. General Cable
 - c. Southwire Company
 - 2. Wiring connectors and terminations:
 - a. 3M Company.
 - b. Ideal.
 - c. Blackburn-Holub.
 - d. Burndy.
 - e. Thomas & Betts Corp.
- B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.2 BUILDING WIRE

- A. Conductor material:
 - 1. Provide annealed copper for all wire, conductor, and cable, unless otherwise indicated.
 - 2. Copper wire AWG #10 and smaller may be solid or stranded as best suited for the installation.
- B. Insulation material:
 - 1. All insulated wire, conductor and cable shall be 600 volt rated, unless otherwise noted on the Drawings.
 - 2. Thermoplastic-insulated building wire.
 - 3. Rubber-insulated building wire.
 - 4. Copper feeders and branch circuits #6 AWG and smaller: Type TW, THW-2, XHHW-2 or dual rated THHN/THWN-2.

2.3 WIRING CONNECTIONS AND TERMINATIONS

- A. Bolted pressure connectors: Provide wide range-taking connectors with cast bronze compression bolts, designed for parallel taps, tees, crosses or end-to-end connections.
- B. Electrical spring wire connectors:

1. Provide multi-part construction incorporating a non-restricted, zinc coated square cross-section steel spring enclosed in a steel sheet with an outer jacket of plastic and insulating skirt.
 2. Self-stripping pigtail and tap U-contact connectors shall not be used.
- C. Push-in wire connectors:
1. Multi-port push-in wire connectors for a maximum of 8-wires, as required for specific application. Connectors are manufactured to accommodate a wide range of sizes with either solid or stranded conductors, up to a maximum wire size of #10 AWG. Low insertion force required for ease of installation.
 2. Housing shall be 105-degrees C and transparent for visual connection verification.
 3. 600 volt maximum rating with copper contacts.
 4. UL Listed to UL 486C and UL 467 Listed for grounding and bonding applications.
- D. Mechanical conductor connectors:
1. Multi-port conductor connectors as required for specific application. Connectors are manufactured to accommodate a wide range of sizes with either solid or stranded conductors, up to a maximum wire size of #750 kCMIL.
 2. Dual rated AL9CU for copper and aluminum conductors.
 3. Conductor ports pre-filled with oxide inhibitor.
 4. 600 volt maximum rating.
 5. UL Listed to 486A/B for dry applications, UL 486D for underground, damp or wet applications, and UL 467 Listed for grounding and bonding applications.
- E. Compression type terminating lugs:
1. Provide tin-plated copper high-compression type lugs for installation with hand or hydraulically operated circumference-crimping tools and dies as stipulated by the lug Manufacturer or as indicated on Drawings. Notch or single point type crimping is NOT acceptable.
 2. Two-hole, long barrel lugs shall be provided for size #4/0 and larger wire where terminated to bus bars. Use minimum of three crimps per lug, on sizes where possible.
- F. Terminal strips:
1. Provide box type terminal strips in the required quantity plus 25% spare. Install in continuous rows in terminal cabinets.
 2. Use the box type terminal strips with barrier open backs and with ampere ratings as required.
 3. Identify all terminals with numbering sequence being used for a system.
- G. Crimp type connectors:
1. Provide insulated fork or ring crimp terminals with tinned electrolytic copper-brazed barrel with funnel wire entry and insulation support
 2. Fasten crimp type connectors or terminals using a crimping tool recommended by the connector Manufacturer.

3. Provide insulated overlap splices with tinned seamless electrolytic copper barrel with funnel wire entry and insulation support.
 4. Provide insulated butt splices with tinned seamless electrolytic copper barrel with center stop, funnel wire entry and insulation support.
- H. Cable ties: Provide harnessing and point-to-point wire bundling with nylon cable ties. All cable ties shall be installed using tool supplied by Manufacturer of ties.
- I. Wire lubricating compound:
1. UL listed for the wire insulation and conduit type and shall not harden or become adhesive.
 2. Shall not be used on wire for isolated type electrical power systems.
- J. Bolt termination hardware:
1. Bolts shall be plated, medium carbon steel heat-treated, quenched and tempered equal to ASTM A-325 or SAE grade 5; or silicon bronze alloy ASTM B-9954 Type B.
 2. Nuts shall be heavy semi-finished hexagon, conforming to ANSI B18.2.2, threads to be unified coarse series (UNC), class 2B steel or silicon bronze alloy.
 3. Flat washers shall be steel or silicon bronze, Type A plain standard wide series, conforming to ANSI B27.2. SAE or narrow series shall not be used.
 4. Belleville conical spring washers shall be hardened steel, cadmium plated or silicon bronze.
 5. Each bolt connecting lug(s) to a terminal or bus shall not carry current exceeding the following values:
 - a. 1/4" bolt: 125 amps
 - b. 5/16" bolt: 175 amps
 - c. 3/8" bolt: 225 amps
 - d. 1/2" bolt: 300 amps
 - e. 5/8" bolt: 375 amps
 - f. 3/4" bolt: 450 amps

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of wire and cable installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.2 APPLICATION

- A. All wire, conductor and cable with their respective connectors, fittings and supports shall be UL listed for the installed application and ambient condition.
- B. Minimum conductor size:
1. Provide minimum AWG #12 for all power and lighting branch circuits.
- C. Color coding:

1. For 120/208 volt, 3-phase, 4-wire systems:
 - a. Phase A - Black
 - b. Phase B - Red
 - c. Phase C - Blue
 - d. Neutral - White
 - e. Ground - Green
2. Grounded neutral conductors #6 AWG or smaller must be color coded with a white or gray continuous outer finish (no taping). Grounded conductors #4 AWG or larger are allowed to be taped for identification.

3.3 WIRING METHODS

- A. Install wires and cables in accordance with Manufacturer's written instructions, CEC Article 310 Part III, as indicated on Drawings and as specified herein.
- B. Install all single conductors in raceway system, unless otherwise noted.
- C. Parallel circuit conductors and terminations shall be equal in length and identical in all ways.
- D. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors, with conductors larger than #10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.
- E. 20 amp power and lighting branch circuit containing no more than four (4) current carrying conductors (phases and neutrals). Use #10 AWG conductor for 120/208 volt circuits located outside a 75-foot radius of panel source and, unless otherwise noted.
- F. Neatly form, train, and tie the cables in individual circuits. For panelboards, cabinets, wireways, switches, and equipment assemblies.

3.4 WIRING INSTALLATION IN RACEWAYS

- A. Install wire in raceway in accordance with IEEE 576, Manufacturer's written instructions, as indicated on the Drawings and as specified herein after interior of building has been physically protected from the weather and all mechanical Work likely to injure conductors has been completed. Pull all conductors into a raceway at the same time. Exercise care in pulling conductors so that insulation is not damaged. Use UL listed, non-petroleum base and insulating type pulling compound as needed.
- B. Completely and thoroughly swab raceway system before installing conductors.
- C. Do not use block and tackle, power driven winch or other mechanical means for pulling conductors of size smaller than #1 AWG.
- D. Wire pulling:
 1. Provide installation equipment that will prevent the cutting or abrasion of insulation during pulling of cables.
 2. Use rope made of nonmetallic material for pulling feeders.
 3. Attach pulling lines for feeders by means of either woven basket grips or pulling eyes attached directly to the conductors.

4. Pull in together multiple conductors or cables in a single conduit.
 5. Pulling tensions and sidewall pressures shall not exceed 60% of the manufacturer's recommended maximum values. Pulling tension shall be continuously monitored during the pull by a calibrated dynamometer. If pulling tension is exceeded during the pull, immediately notify the engineer to determine if the cables will be considered damaged and require contractor replacement.
- E. Install and test all cables in accordance with Manufacturer's instructions and warranty.

3.5 WIRE SPLICES, JOINTS AND TERMINATION

- A. Join and terminate wire, conductors, and cables in accordance with the equipment UL Listing, CEC and Manufacturer's instructions.
- B. Thoroughly clean wires before installing lugs and connectors.
- C. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.
- D. Splices and terminations shall be made mechanically and electrically secure.
- E. Branch circuits (#10 AWG and smaller):
 1. Connectors: Solderless, screw-on, reusable spring pressure cable type, 600 volt, 105-degree C. with integral insulation, approved for copper conductors.
 2. The integral insulator shall have a skirt to completely cover the stripped wires.
 3. The number, size and combination of conductors as listed on the Manufacturers packaging shall be strictly complied with.
- F. Termination hardware assemblies:
 1. AL/CU lugs connected to aluminum plated or copper buss, shall be secured using a steel bolt, flat washer (two per bolt), Belleville washer and nut.
 2. Copper lugs connected to copper bus, shall be secured using silicon bronze alloy bolt, flat washer (two per bolt), Belleville washer and nut.
 3. The crown of Belleville washers shall be under the nut.
 4. Bolt assemblies shall be torque to Manufacturer recommendation. Where manufacture recommendations are not obtainable, the following values shall be used:
 - a. 1/4" - 20 bolt at 80-inch pounds torque.
 - b. 5/16" - 18 bolt at 180-inch pounds torque.
 - c. 3/8" - 16 bolt at 20-foot pounds torque.
 - d. 1/2" - 13 bolt at 40-foot pounds torque.
 - e. 5/8" - 11 bolt at 55-foot pounds torque.
 - f. 3/4" - 10 bolt at 158-foot pounds torque.

3.6 IDENTIFICATION

- A. Refer to Section 260553: Electrical Identification for additional requirements.

- B. Securely tag all branch circuits. Mark conductors with specified vinyl wrap-around markers. Where more than two conductors run through a single outlet, mark each conductor with the corresponding circuit number.

3.7 FIELD QUALITY CONTROL

- A. Independent testing: Contractor shall arrange and pay for the services of an independent Testing Agency to perform all quality control electrical testing required herein. Independent Testing Agency shall meet the requirements as outlined in Section 260010: Basic Electrical Requirements.
- B. Prefunctional testing:
 - 1. Visual and mechanical inspection:
 - a. Compare cable data with Contract Documents.
 - b. Inspect exposed sections of wires and cables for physical damage and proper connections.
 - c. Verify tightness of accessible bolted connections with calibrated torque wrench in accordance with Manufacturer's published data.
 - d. Inspect compression applied connectors for correct cable match and indentation.
 - e. Verify visible cable bend meet or exceed ICEA and Manufacturer's minimum allowable bending radius.
 - f. If cables are terminated through window type current transformers, inspect to verify neutral and ground conductors are correctly placed for operation of protective devices.
 - g. Ensure wire and cable identification has been installed as specified herein.
 - 2. Electrical testing:
 - a. Contractor shall perform feeder and branch circuit insulation test after installation and prior to connection to utilization devices such as fixtures, motors, or appliances. Testing shall be as follows:
 - 1) 10% of all branch circuits at each individual panelboard.
 - b. Perform insulation-resistance test using megohm meter with applied potential of 1000 volt DC for a continuous duration of 60-seconds. Test conductors' phase-to-phase and phase-to-ground. Conductors shall test free from short-circuit and ground faults.
 - c. Perform continuity test of all feeder and branch circuits to ensure correct cable connections. Test all neutrals for improper grounds.
 - d. Contractor shall furnish instruments, materials, and labor for these tests.
 - 3. Test values: Investigate resistance values less than 50-megohms.
 - 4. Furnish test results in typewritten report form for review and inclusion in the operation and maintenance manuals.

END OF SECTION

SECTION 260531 – CONDUIT

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Labor, materials, and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
 - 1. Electrical metallic tubing and fittings.
- B. Related Work: Consult all other Sections, determine the extent and character of related Work, and properly coordinate Work specified herein with that specified elsewhere to produce a complete installation.
 - 1. Division 01: Cutting and patching.
 - 2. Division 07: Sheet metal flashing and trim.
 - 3. Division 09: Painting. Exposed conduit and other devices.

1.2 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified:
 - 1. American National Standards Institute, Inc. (ANSI):
 - ANSI C80.3; Electrical Metallic Tubing, Zinc Coated.
 - 2. Underwriters Laboratories, Inc. (UL):
 - UL 797; Electrical Metallic Tubing - Steel.

1.3 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements the following items:
 - 1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 - 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 - 3. Submit Manufacturer's installation instruction. Provide written instructions for raceway products requiring glues, special tools, or specific installation techniques.

1.4 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused, and currently under production.
- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted and approved.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.

1. Metal conduit:

- a. Allied Tube and Conduit Co.
- b. Triangle PWC, Inc.
- c. Western Tube and Conduit Corp.
- d. Spring City Electrical Manufacturing Co.
- e. Occidental Coating Co. (OCAL).

2. Fittings:

- a. Appleton Electric Co.
- b. OZ/Gedney.
- c. Thomas & Betts Corp.
- d. Spring City Electrical Manufacturing Co.
- e. Occidental Coating Co. (OCAL).

B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.2 ELECTRICAL METALLIC TUBING (EMT)

A. Conduit: Shall be formed of cold rolled strip steel, electrical resistance welded continuously along the longitudinal seam and hot dip galvanized after fabrication. Conduit shall conform to ANSI C80.3 Specifications and shall meet UL requirements.

B. Set screw type couplings: Hot dip galvanized, steel or cast malleable iron, UL listed concrete tight. Use set screw type couplings with four setscrews each of conduit sizes over 2 inches. Setscrews shall be of case-hardened steel with hex-head and cup point to firmly seat in wall of conduit for positive grounding.

C. Set screw type connectors: Hot dip galvanized, steel or cast malleable iron UL listed concrete tight with male hub and insulated plastic throat, 150-degree C temperature rated. Setscrew shall be same as for couplings.

D. Raintight couplings: Hot dip galvanized, steel or cast malleable iron; UL listed raintight and concrete tight, using gland and ring compression type construction.

E. Raintight connectors: Hot dip galvanized, steel or cast malleable iron, UL listed raintight and concrete tight, with insulated throat, using gland and ring compression type construction.

2.3 MISCELLANEOUS CONDUIT FITTINGS AND PRODUCTS

A. Watertight conduit entrance seals: Steel or cast malleable iron bodies and pressure clamps with PVC sleeve, neoprene sealing grommets and PVC coated steel pressure rings. Fittings shall be supplied with neoprene sealing rings between the body and PVC sleeve.

B. Watertight cable sealing bushings: One piece, compression molded sealing ring with PVC coated steel pressure disks, stainless steel sealing screws and zinc plated cast malleable iron locking collar.

- C. Expansion fittings: Multi-piece unit comprised of a hot dip galvanized malleable iron or steel body and outside pressure bussing designed to allow a maximum of 4" conduit movement (2" in either direction). Furnish with external braid tinned copper bonding jumper. Unit shall be UL listed for wet or dry locations.
- D. Expansion/deflection couplings: Multi-piece unit comprised of a neoprene sleeve with internal flexible tinned copper braid attached to bronze end couplings with stainless steel bands. Coupling shall accommodate 0.75-inch deflection, expansion or contraction in any direction and allow 30-degree angular deflections. Flexible, corrosion-resistant, watertight, moisture and heat resistant molded rubber jacket and stainless-steel jacket clamps. Unit shall comply with UL467 and UL514. Manufacturer shall be OZ/Gedney Type DX, Steel City Type EDF or equal.
- E. Fire rated penetration seals:
 - 1. UL building materials directory classified.
 - 2. Conduit penetrations in fire rated separation shall be sealed with a UL classified fill, void or cavity material.
 - 3. The fire rated sealant material shall be the product best suited for each type of penetration and may be a caulk, putty, composite sheet, or wrap/strip.
- F. Standard products not herein specified:
 - 1. Provide listing of standard electrical conduit hardware and fittings not herein specified for approval prior to use or installation, i.e. locknuts, bushings, etc.
 - 2. Listing shall include Manufacturer's name, part numbers and a written description of the item indicating type of material and construction.
 - 3. Miscellaneous components shall be equal in quality, material and construction to similar items herein specified.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of conduit system installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.2 APPLICATION

- A. Electrical metallic tubing (EMT): Can be used exposed or concealed for interior electrical feeders 4" and smaller, interior power and lighting branch circuits and low tension distribution system where run above suspended ceilings, in concrete slabs and walls not in contact with earth; in stud walls, furred spaces and crawl spaces. EMT shall not be installed exposed below 6 feet above the finish floor except within electrical, communication or signal rooms or closets.

3.3 PREPARATION

- A. Locations of conduit runs shall be planned in advance of the installation and coordinated with ductwork, plumbing, ceiling and wall construction in the same areas and shall not unnecessarily cross other conduits or pipe, nor prevent removal of ceiling tiles or panels, nor block access to mechanical or electrical equipment.

- B. Where practical, install conduits in groups in parallel vertical or horizontal runs and at elevations that avoid unnecessary offsets.
- C. All conduits shall be run parallel or at right angles to the centerlines of columns and beams, whether routed exposed, concealed above suspended ceiling or in concrete slabs.
- D. Conduits shall not be placed closer than 12-inches to a flue, parallel hot water, steam line or other heat producing source or three inches from such lines when crossing perpendicular to the runs.
- E. Exposed conduit installation shall not encroach into the ceiling height headroom of walkways or doorways. Where possible, install horizontal raceway runs above water and below steam piping.
- F. The largest trade size conduits in concrete floor and wall slabs shall not exceed 1/3 the floor or wall thickness and conduits shall be spaced a minimum of three conduit diameters apart unless otherwise noted on the Drawings. All conduits shall be installed in the center of concrete slabs or wall and shall not be placed between reinforcing steel and the bottom of floor slabs.
- G. In long runs of conduit, provide sufficient pull boxes inside buildings to facilitate pulling wires and cables, with spacing not to exceed 150-feet. Support pull boxes from structure independent of conduit supports. These pull boxes are not indicated on the Drawings.
- H. Provide all reasonably inferred standard conduits fitting and products required to complete conduit installation to meet the intended application whether noted, indicated, or specified in the Contract Documents or not.

3.4 INSTALLATION

- A. Install conduit in accordance with Manufacturer's written instructions, as indicated on Drawings and as specified herein.
- B. Minimum Conduit Size: Unless otherwise noted herein or on Drawings, minimum conduit size shall be 1/2" for interior applications and 3/4" for exterior and underground applications.
- C. All conduit sizes indicated on the Drawings are sized for copper conductors with THHN/THWN insulation. If conductor type or size is changed the Contractor shall be responsible for resizing conduits upward to meet Code.
- D. In general, all conduit work shall be concealed where possible. Exceptions shall be electrical, communication and mechanical rooms, exposed ceiling areas, and parking garages.
- E. Conduit connections to motors and surface cabinets shall be concealed, except for electrical, communication and mechanical rooms, or unless exposed Work is clearly called for on the Drawings.
- F. Install conduits in complete runs before pulling in cables or wires.
- G. Install conduit free from dented, bruises or deformations. Remove and replace any damaged conduits with new undamaged material.
- H. Conduits shall be well protected and tightly covered during construction using metallic bushings and bushing "pennies" to seal open ends.

- I. In making joints in rigid steel conduit, ream conduit smooth after cutting and threading. Coat all field-threaded joints with UL approved conductive type compound to ensure low resistance ground continuity through conduit and to prevent seizing and corrosion.
- J. Clean any conduit in which moisture or any foreign matter has collected before pulling in conductors. Paint all field-threaded joints to prevent corrosion.
- K. In all empty conduits or ducts, install a "True Tape" conduit measuring tape line to provide overall conduit length for determining length of cables/conductors for future use.
- L. Conduit systems shall be mechanically and electrically continuous throughout. Install code size, insulated, copper, green-grounding conductors in all conduit runs for branch circuits and feeders. This conductor is not indicated on the Drawings.
- M. Metallic conduit shall not be in contact with other dissimilar metal pipes (i.e. plumbing).
- N. Make bends with standard conduit bending hand tool or machines. The use of any item not specifically designed for the bending of electrical conduit is strictly prohibited.
- O. A run of conduit between terminations at wire pulling points shall not contain more than the equivalent of four quarter bends (360-degrees, total).

3.5 PENETRATIONS

- A. Locate penetrations and holes in advance where they are proposed in the structural sections such as footings, beams, wall, etc. Penetrations are acceptable only when the following occurs:
 - 1. Where indicated on the Structural Drawings.
 - 2. As approved by the Structural Engineer prior to construction and after submittal of Drawing showing location, size, and position of each penetration.
- B. Cutting or holes:
 - 1. Cut holes through concrete, masonry block or brick floors and floors of structure with a diamond core drill or concrete saw. Pneumatic hammer, impact electric, hand or manual hammer type drills are not allowed, except where permitted by the Structural Engineer as required by limited working space. Obtain the approval of the Structural Engineer prior to drilling through structural sections.
 - 2. Provide sleeves or "can outs" for cast-in-place concrete floors and walls. Following conduit installation, seal all penetrations using non-iron bearing, chloride free, non-shrinking, dry-pack grouting compounds; or fire rated penetration-sealing materials.
 - 3. Cut holes for conduit penetrations through non-concrete and non-masonry walls, partitions, or floors with a hole saw. The hole shall be only as large as required to accommodate the size of the conduit.
 - 4. Provide single piece escutcheon plates around all exposed conduit penetrations in public places.
- C. Sealing:

1. Non-rated penetrations: Pack opening around conduits with non-flammable insulating material and seal with gypsum wallboard taping compound.
 2. Fire stop: Where conduits, wireways and other electrical raceways pass through fire rated partitions, walls, smoke partitions or floor; install a UL classified fire stop material to provide an effective barrier against the spread of fire, smoke, and gases. Completely fill and seal clearances between raceways and openings with the fire stop material.
- D. Waterproofing: At floor, exterior wall, and roof conduit penetrations, completely seal clearances around the conduit and make watertight as specified in Division 07: Sealants and Caulking.
1. Install specified watertight conduit entrance seals at all below grade wall and floor penetrations. Conduits penetrating exterior building walls and building floor slab shall be PVC coated rigid galvanized steel.
 2. For roof penetrations furnish and install roof flashing, counter flashing and pitch-pockets as specified under Roofing and Sheet Metal Sections of the Specifications.
 3. Provide membrane clamps and cable sealing fittings for any conduit that horizontally penetrates the waterproof membrane.
 4. Conduits that horizontally penetrate a waterproof membrane shall fall away from and below the penetration on the exterior side a minimum of two times the conduit diameters.

3.6 TERMINATIONS AND JOINTS

- A. Use raceway fittings that are of types compatible with the associated raceway and suitable for the use and location. For intermediate steel conduit, use threaded rigid steel conduit fittings except as otherwise indicated.
- B. Raceways shall be joined using specified couplings or transition couplings where dissimilar raceway systems are joined.
- C. Conduits shall be securely fastened to cabinets, boxes and gutters using two locknuts and an insulating bushing or specified insulated connectors. Where joints cannot be made tight, use bonding jumpers to provide electrical continuity of the raceway system. Where terminations are subject to vibration, use bonding bushings or wedges to assure electrical continuity. Where subject to vibration or dampness, use insulating bushings to protect conductors. Install grounding bushings or bonding jumpers on all conduits terminating at concentric or eccentric knockouts.
- D. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using specified connectors and hubs.
- E. Install specified cable sealing bushings on all conduits originating outside the building walls and terminating in switchgear, cabinets, or gutters inside the building. Install cable sealing bushings or raceway seal for conduit terminations in all grade level or below grade exterior pull, junction, or outlet boxes.
- F. Install expansion couplings where any conduit crosses a building separation or expansion joint as follows:
 1. Conduits smaller than three inches shall be rigidly secured to the building structure on opposite sides of a building expansion joint with junction boxes on both sides of the joint. Connect conduits to junction boxes with 15 inches of

slack flexible conduit. Flexible conduit shall have a green copper ground-bonding jumper installed. For concrete embedded conduit, use expansion and deflection couplings as specified above for three inches and larger conduits.

3.7 SUPPORTS

- A. All raceways systems shall be secured to building structures using specified fasteners, clamps and hangers spaced according to the CEC.
- B. Support single runs of conduit using one-hole pipe straps. Where run horizontally on walls in damp or wet locations, install "clamp backs" to space conduit off the surface.
- C. Multiple conduit runs shall be supported using "trapeze" hangers fabricated from specified construction channel, mounted to 3/8-inch diameter, threaded steel rods secured to building structures. Fasten conduit to construction channel with standard one-hole pipe clamps or the equivalent. Provide lateral seismic bracing for hangers.
- D. Individual 3/4" conduits installed above suspended ceilings may be attached to the ceiling's hanger wire using spring steel support clips provided that not more than two conduits are attached to any single support wire.
- E. Support exposed vertical conduit runs at each floor level, independent of cabinets or switches to which they run, by means of acceptable supports.
- F. Fasteners and supports in solid masonry and concrete:
 - 1. Use steel or malleable iron concrete inserts set in place prior to placing the concrete.
 - 2. After concrete installation:
 - a. Steel expansion anchors not less than ¼ inch bolt size and not less than 1-1/8" embedment.
 - b. Power set fasteners not less than ¼ inch diameter with depth of penetration not less than three inches.
 - c. Use vibration and shock resistant anchors and fasteners for attaching to concrete ceilings.
- G. Hollow masonry: Toggle bolts are permitted. Bolts supported only by masonry block are not acceptable.
- H. Metal structures: Use machine screw fasteners or other devices specifically designed and approved for the application.

END OF SECTION

SECTION 260553 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Labor, materials, and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
 - 1. Panelboard directories.
 - 2. Wire and cable identification.
 - 3. Junction box identification.
 - 4. Inscribed device coverplates.
- B. Related Work: Consult all other Sections, determine the extent and character of related Work, and properly coordinate Work specified herein with that specified elsewhere to produce a complete installation.
 - 1. Division 09: Painting.

1.2 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
 - 1. Data/catalog cuts for each product and component specified herein.
 - 2. Schedules for nameplates to be furnished.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
 - 1. Conduit and wire markers:
 - a. Thomas & Betts Corp.
 - b. Brady.
 - c. Griffolyn.
 - 2. Inscription Tape:
 - a. Kroy.
 - b. Merlin.
- B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.2 PANELBOARD DIRECTORIES (400 AMP OR LESS)

- A. Directories: A 6" x 8" minimum size circuit directory frame and card with clear plastic covering shall be provided inside the inner panel door.
- B. Circuit numbering: Starting at the top, odd numbered circuits in sequence down the left-hand side and even numbered circuits down the right-hand side. Multi-section panelboards shall have continuous consecutive circuit numbers, i.e. Section 1 (circuit

numbers 1-42), Section 2 (circuit numbers 43-84), Section 3 (circuit numbers 85-126) for all 42-pole panelboards. For 84-pole panelboards the numbering is Section 1 (circuit numbers 1-84), Section 2 (circuit numbers (85-168), etc.

2.3 WIRE AND TERMINAL MARKERS

- A. Provide self-adhering, pre-printed, machine printable or write-on, self-laminating vinyl wrap around strips.
- B. Blank markers shall be inscribed using the printer or pen recommended by Manufacturer for this purpose.

2.4 CONDUCTOR PHASE MARKERS

- A. Colored vinyl plastic electrical tape, 3/4" wide, for identification of phase conductors. Scotch 35 Brand Tape or equal.

2.5 INSCRIBED DEVICE COVERPLATES

- A. Coverplate material shall be as specified in Section 262726: Wiring Devices.
- B. Methods of inscription: (Unless otherwise noted)
 - 1. Type-on-tape:
 - a. Imprinted or thermal transfer characters onto tape lettering system.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of identification device installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.2 PANELBOARD DIRECTORIES (400 AMP OR LESS)

- A. Provide typewritten directories arranged in numerical order denoting loads served by room number or area for each circuit.
- B. Verify room numbers or area designation with Project Manager.
- C. Mount panelboard directories in a minimum 6" x 8" metal frame under clear plastic cover inside every panelboard.

3.3 WIRE AND CABLE IDENTIFICATION

- A. Provide wire markers on each conductor in panelboards, pull boxes, outlet, and junction boxes and at load connection. Identify with branch circuit or feeder number for power and lighting circuits and with control wire number as indicated on equipment Manufacturer's Shop Drawings for control wiring.
- B. Provide colored phase markers for conductors as noted in Section 260519: Building Wire and Cable. Apply colored, pressure sensitive plastic tape in half-lapped turns for a distance of 3-inches from terminal points and in boxes where splices or taps are made. Apply the last two laps of tape with no tension to prevent possible unwinding. Do not cover cable identification markings by taping.

3.4 JUNCTION BOX IDENTIFICATION

- A. The cover of junction, pull and connection boxes for both power and signal systems, located above suspended ceilings and below ceilings in non-public areas, shall be clearly marked with a permanent ink felt pen. Identify the circuit(s) (panel designation and circuit numbers) contained in each box, unless otherwise noted or specified.

3.5 INSCRIBED DEVICE COVERPLATE

A. General:

- 1. Lettering type: Helvetica, 12 point or 1/8" high.
- 2. Color of characters shall be black.
- 3. Locate the top of the inscription 1/2" below the top edge of the coverplate.
- 4. Inscription shall be centered and square with coverplate.

B. Application:

- 1. Provide inscribed coverplates for devices as outlined below:
 - a. Receptacles.

END OF SECTION

REFERENCE ONLY

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Labor, materials, and equipment necessary to complete the installation required for the item specified under this Division, including but not limited to:
1. Receptacles.
 2. Coverplates.
- B. Related Work: Consult all other Sections, determine the extent and character of related Work, and properly coordinate Work specified herein with that specified elsewhere to produce a complete installation.

1.2 REFERENCES

- A. Comply with the latest edition of the following applicable Specifications and standards except as otherwise indicated or specified.
1. National Electrical Manufacturer's Association (NEMA):
NEMA WD-1; General-Purpose Wiring Devices.
 2. Underwriter's Laboratories (UL):
UL 231; Power Outlets.
UL 498; Attachment Plugs and Receptacles.
UL 514D; Cover Plates for Flush-Mounted Wiring Devices.
UL 1681; Wiring Device Configurations.

1.3 SUBMITTALS

- A. Submit in accordance with the requirements of Section 260010: Basic Electrical Requirements, the following items:
1. Data/catalog cuts for each product and component specified herein, listing all physical and electrical characteristics and ratings indicating compliance with all listed standards.
 2. Clearly mark on each data sheet the specific item(s) being submitted and the proposed application.
 3. Provide color finishes for Architect to select from.
 4. Submit Manufacturer's installation instructions.
- B. Where inscribed device coverplates are noted on the Drawings or in the Specifications, conform to the requirements of Section 260553: Electrical Identification.

1.4 QUALITY ASSURANCE

- A. All materials, equipment and parts comprising the units specified herein shall be new, unused, and currently under production.

- B. Only products and applications listed in this Section may be used on the Project unless otherwise submitted.

1.5 WARRANTY

- A. Occupancy sensors offered under this Section shall be covered by a 1-year parts and labor warranty for malfunctions resulting from defects in materials and workmanship. Warranty shall begin upon acceptance by the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products furnished by the following Manufacturers shall be acceptable if in compliance with all features specified herein and indicated on the Drawings.
 - 1. Switches, receptacles and coverplates:
 - a. Hubbell.
 - b. Pass & Seymour.
 - c. Leviton.
- B. Substitutions: Under provisions of Section 260010: Basic Electrical Requirements.

2.2 RECEPTACLES

- A. Standards:
 - 1. Provide general purpose 20 amp, 125/250 volt AC receptacles that conform to NEMA WD-1 Specifications. Specialty receptacles shall conform to NEMA WD-5 Specifications as applicable.
 - 2. Provide NEMA 5-20R, industrial (heavy-duty) grade as noted herein, 20 amp, 125 volt AC, 2-pole, 3-wire grounding type receptacles.
 - 3. Receptacles shall match existing style of device.
 - 4. Receptacles shall be tamper-resistant in areas specified in CEC Article 406.12 or as indicated on Drawings.
- B. Color:
 - 1. Device color shall match existing, unless otherwise noted.
- C. General purpose duplex receptacles:
 - 1. Provide self-grounding, back and side wired with binding head staked terminal screws and break-off strip for two-circuit wiring.

2.3 COVERPLATES

- A. General:
 - 1. Provide all coverplates with rounded edges and corners, smooth and free of grooves, embossing or other embellishment.
 - 2. Provide mounting screws to match the plate finish.
 - 3. Provide gang type coverplates where two or more devices are installed at one location. Individual gangable coverplates are not acceptable.

4. Provide plates that match existing, throughout the Project unless otherwise specified.
- B. Color: Coverplate color shall match existing, unless otherwise noted.
- C. Plastic coverplates:
 1. Provide smooth, high impact, self-extinguishing thermoplastic coverplates and 0.100 inches thick with rounded edges and corners.
 2. Provide openings to accommodate the devices indicated on the Drawings and in the Specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor shall thoroughly examine Project site conditions for acceptance of wiring device installation to verify conformance with Manufacturer and Specification tolerances. Do not commence with installation until all conditions are made satisfactory.

3.2 INSTALLATION

- A. Install wiring devices in accordance with Manufacturer's written instructions, as indicated on the Drawings and as specified herein.
- B. Install devices with the vertical centerline plumb and with all edges of the device flush against the adjacent wall surfaces.
- C. Provide coverplates for all outlet boxes, switches, receptacles, etc.
- D. Install blank coverplates on all outlet boxes in which no device is required or installed.
- E. Provide coverplates that completely cover wall opening and seat against wall.

3.3 CLEANING

- A. Clean interior of all boxes from dirt and paint prior to installation of devices.
- B. Clean wiring devices and coverplates from dirt and paint over spray.

END OF SECTION

SECTION 27 41 16 – AUDIO VIDEO SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY:

- A. Section Includes: Services as listed herein and related to the furnishing, installation, and commissioning of audio, video and communications equipment.
- B. Related Documents: The Conditions of the Contract and Division 01 – General Requirements apply to this section as fully as if repeated herein.
- C. Related Sections: Coordinate with the following sections in carrying out this work:
 - 1. Division 26 – Electrical

1.2 ADD/ALTERNATES

- A. Add/Alt #1 - Senior Center (entire system)
- B. Add/Alt #2 – Police Department Emergency Operations Center (entire system)
- C. Add/Alt #3 – Community Hall Video Conferencing
- D. Add/Alt #4 – Meeting Room Video Conferencing
- E. Add/Alt #5 – Senior Center Video Conferencing
- F. Add/Alt #6 – Police Dept EOC Video Conferencing

1.3 REFERENCES:

- A. Comply with all national, state and local regulations and the procedures and requirements of the local authorities. In the event of conflict between these specifications and the applicable regulations, the more stringent shall govern.
- B. Equipment shall be provided in accordance with the related trade and regulatory guidelines including but not limited to UL/ETL, NEC, IEEE, and all manufacturer's recommendations and requirements. Contractor shall be responsible if work under their control voids or jeopardizes manufacturers' warranties.
- C. Labor shall be provided in accordance with applicable labor regulations and practices.
- D. Reference Standards
 - 1. Provide the most current AV and associated industry standards. Standards organizations include, but are not limited to:
 - a. AES – Audio Engineering Society
 - b. ANSI – American National Standards Institute
 - c. AVIXA (Infocomm) – Audiovisual and Integrated Experience Association
 - d. CEA – Consumer Electronics Association
 - e. EIA – Electronics Industries Association of America
 - f. ICEA – Insulated Cable Engineers Association
 - g. IEC – International Electrotechnical Commission
 - h. IEEE – Institute of Electrical and Electronics Engineers
 - i. ISO – International Organization for Standardization
 - j. NARA – US National Archives and Records Administration
 - k. NCTA – National Cable and Telecommunications Association
 - l. NEC – National Electrical Code

- m. NFPA – National Fire Protection Association
- n. SMPTE – Society of Motion Pictures and Television Engineers
- o. TIA – Telecommunications Industry Association
- p. UL – Underwriter Laboratories Incorporated

1.4 DEFINITIONS:

- A. Refer to the General Conditions for definitions.
- B. Architect: For the scope in this Section, authorized personnel representing Owner and the Theater Consultant.
- C. Contractor: Contractor/Manufacturer responsible for the work of this section. Note: Where work relates to other trades, the trade will be identified by name preceding the word contractor or by the associated division.
- D. Owner: Authorized personnel representing the ultimate occupant of the completed project site. Also: Client; User; Operator.
- E. Install: Integrate into proper location on the project site.
- F. Provide: Furnish and install, unless otherwise noted
- G. Technical Definitions:
 - 1. SDI - Serial Digital Interface (HD- resolutions up to 4:2:2 10-bit 1080p30; 3G- resolutions up to 4:2:2 10-bit 1080p60; 6G- Resolutions up to 4:2:2 10-bit 4K-UHD including 4:4:4 10-bit 1080p60; 12G- resolutions up to 4:2:2 12-bit 4K-UHD including 4:4:4 10-bit 4K-UHD p60)
 - 2. 4K-DCI- 17:9 Digital Cinema 4K resolution at 4096x2160
 - 3. 4K-UHD-Computer/Video UHD resolution at 3840x2160
 - 4. AFF - Above Finished Floor
 - 5. ALS - Assistive Listening System
 - 6. ASM - Assistant Stage Manager
 - 7. AV - Audiovisual
 - 8. A/R - As Required
 - 9. BYOD- Bring your own device
 - 10. CAT - Category (i.e., Category 5e, 6, 6a, 7, etc.)
 - 11. CATV - Cable Television or Community Antenna Television
 - 12. CC - Closed Captions
 - 13. CCU - Camera Control Unit
 - 14. CFCI - Contractor-Furnished Contractor-Installed
 - 15. CTRL- Control
 - 16. DI - Direct Injection Box
 - 17. DP - DisplayPort
 - 18. DSP - Digital Signal Processor
 - 19. EAE - Electro-acoustic Enhancement
 - 20. HD - High Definition
 - 21. HDMI - High Definition Multimedia Interface
 - 22. I/O - Inputs/Outputs
 - 23. MATV- Master Antenna Television
 - 24. MIX - Sound Operator Position
 - 25. MM - Multimode (Fiberoptics)
 - 26. MPEG- Moving Picture Experts Group
 - 27. OC - Open Captions
 - 28. OFCI - Owner-furnished Contractor-Installed
 - 29. OFOI - Owner-furnished Owner-Installed

- 30. RF - Radio Frequency
- 31. RX - Receiver
- 32. SD - Standard Definition
- 33. SM - Singlemode (fiberoptics); or Stage Manager (Production)
- 34. TD - Technical Director
- 35. TX - Transmitter
- 36. USB - Universal Serial Bus
- 37. UPS - Uninterruptible Power Supply
- 38. VIF - Verify in Field

1.5 SYSTEM DESCRIPTION:

A. General

- 1. Several pieces of existing equipment will be reused. See the equipment list for a complete listing.

B. Demolition

- 1. See drawings for demolition requirements at each location.
- 2. Turn over removed equipment to the owner for disposal.
- 3. Projection Screens:
 - a. Community Hall: Remove (2) existing projection screens and provide wood infill to match existing soffit.
 - b. Meeting Rooms: Remove (2) existing projection screens, and coordinate with owner for replacement ceiling tiles.
 - c. Senior Center: Remove (1) existing projection screen, and patch/paint disturbed area.

C. Network Access

- 1. Provide (2) drops to all AV racks from the nearest IDF locations, as identified in the drawings.

D. Electrical, Acoustic, Patch/Paint work

- 1. It is in the scope of this project to run new free-air low-voltage cabling behind the drywall (new conduit not required) for any devices that do not currently have conduit installed.
- 2. For all 120VAC electrical work, retain a qualified electrical contractor for the work. All electrical work behind walls must use metal jacketed flex cabling and metal junction boxes.
 - a. Obtain any necessary electrical permits.
 - b. See electrical drawings. All work indicated in the electrical drawings is part of this scope of work.
- 3. It is in the scope of this work to patch and paint any disturbed finishes to match original.

4. Senior Center: see architectural drawings for scope related to new acoustic panels. Retain a qualified acoustic panel installer for the work.
- E. LED Wall Mounting
1. At Community Hall:
 - a. Remove acoustic panels at LED wall location and attach backing.
 - b. Reconfigure acoustic panels as needed for a complete and clean installation.
 - c. Provide backing and mounting as needed to support new LED displays.
 2. At Senior Center:
 - a. Provide backing and mounting as needed to support new LED displays.
- F. Community Hall
1. Audio Systems – Community Hall
 - a. The reinforcement audio system is comprised of an automatic mixer system with automatic echo cancellation.
 - b. The internal programming of the DSP is under the scope of this work, and shall be submitted for approval during the shop drawing process. The contractor is responsible to provide standard & customary DSP blocks, including necessary EQ, protection limiting, etc.
 - c. Four channels of wireless microphone shall be provided, complete with rechargeable batteries, drop-in chargers, remote antennas, and accessories as indicated.
 - d. Provide Bluetooth & 3.5mil to Dante input devices in each room.
 - e. The loudspeaker system is comprised of existing ceiling-mounted speakers and a new multi-channel amplifier.
 2. Audio Systems – Building Wide
 - a. An existing building-wide paging system is to be re-used.
 - b. Provide a new multi-channel, network-based audio amplifier and connect to existing loudspeakers. Confirm signal on all loudspeakers.
 - c. Reconnect the existing paging station microphones and configure for building-wide paging, or as directed by the owner.
 3. Assistive Listening
 - a. Provide an ADA-compliant FM-based assistive listening system. Reuse existing transmitters, mounts and antennas.
 - b. Provide new power supplies for both transmit units and confirm fully operational.
 - c. Existing receivers, headsets and accessories will be reused.
 4. Video Systems- Presentation

- a. An IP-based production video switching and routing system with scaling shall be provided to handle signals from all video devices. All input and output devices shall use CAT6A/STP cable as the means of transport to the AV rack room, where the ethernet switch is located. The switcher shall be fully HDCP compliant and support EDID.
 - 1) It is within the scope of this project to completely define and configure the EDID table. The presentation system shall operate at 1080p/60 4:4:4, 12-bit, with scaling as needed.
 - 2) Audio from the IP-based switching system shall be fed to the audio DSP via Dante/AES67 protocol.
 - b. Two cable tv receivers shall be provided by owner for installation.
 - c. Two direct-view LED screens shall be provided, complete with processor, wall mount, trim kit, Novastar controller, spares and all required accessories.
 - 1) Provide with the following minimum specifications:
 - a) Pixel Pitch: 1.56mm
 - b) LED type: COB Flip-Chip
 - c) Brightness: 800 nit
 - d) Refresh rate: 3840
 - e) Total system resolution: 1728x3072
 - 2) Provide with 10% spares kit.
 - 3) Provide with service tool.
 - 4) Coordinate with manufacturer for field installation and commissioning. Prepare as needed for on-site field commissioning prior to manufacturer representative arriving.
 - d. Provide a rack-mounted video monitor.
 - e. Two existing lecterns shall be reused. Provide new inserts in the existing cable cubbies as needed. Include HDMI inputs and blank covers for any unused spaces.
5. Control System
- a. A touch screen-based control system shall be provided for control over all applicable AV devices.
 - b. Color touchscreens with wall mounts shall be provided at locations indicated in the drawings.
 - 1) Touchscreen shall be iPads in wall mounts with hardwire connections for data and power via IP/POE connection.
 - 2) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - c. Portable touchscreens with charging dock shall be provided. Configure the system as needed to tie into the building WiFi system.

- 1) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - d. Provide a rack-mounted touchscreen at the equipment rack for utility functions.
 - e. Provide a partition sensor to allow for room combine/separate functions. This shall also be manually selectable for activation/override from the touchpanel.
 - f. Link the system to the architectural lighting system, using proper means of connection to allow preset recall. It is in the scope of this section to provide whatever hardware interfacing and programming is necessary to connect to the 3rd party interface for a complete and working system.
 - g. Link the system to the motorized shade system, using proper means of connection to allow preset recall. It is in the scope of this section to provide whatever hardware interfacing and programming is necessary to connect to the 3rd party interface for a complete and working system.
 - h. All control system programming is the responsibility of the AV contractor and shall be submitted during the shop drawing phase for approval. See control system section below.
6. Utility/General
- a. Provide stamped, engineered structural drawings for all new mounting assemblies.
 - b. Equipment racks and power distribution are to be reused.
 - c. Provide new UPS system as indicated.
 - d. Provide network switches and RJ45 CAT6A STP patchbay for network patching.
 - e. Provide all required mounting hardware for a complete installation.
7. Control System Programming
- a. Touchpanels shall be configured with the most often-used device functions. Do not attempt to put every possible device function on the touchpanel.
 - b. Provide the following minimum feature set at the touch panel:
 - 1) System Power On/Off
 - 2) Automixer, Wireless Mics, Video Source & Main System Volume
 - 3) LED screens On/Off, Mute, Source
 - 4) Matrix Switcher controls (source, routing, etc)
 - 5) Video conference controls (Zoom)
 - 6) PTZ camera functions and position recall
 - 7) Room divide (auto/override)
 - 8) Architectural Lighting Controls
 - 9) Motorized Shade Controls
 - c. Provide (4) Macro command buttons on main page, to be determined by owner during the submittal period.
 - d. Touchpanel programming is the responsibility of the contractor. An outline has been made above but does not include all functions required. The contractor is responsible to design a graphic user interface using the following guidelines:

- 1) In automatic mode, use must be able to complete any function within two button presses.
 - 2) More important functions shall be more prominent on the interface.
 - 3) Like functions shall appear at the same place on every screen.
 - 4) Nesting menus are not allowed.
- e. The base template for the touchpanel shall be from the stock manufacturer line, with customization as necessary. The template colors shall be modified to match Organization colors, and the splash screen shall show the Organization's logo.

G. Meeting Rooms

1. Audio Systems

- a. The reinforcement audio system is comprised of an automatic mixer system with automatic echo cancellation.
- b. The internal programming of the DSP is under the scope of this work, and shall be submitted for approval during the shop drawing process. The contractor is responsible to provide standard & customary DSP blocks, including necessary EQ, protection limiting, etc.
- c. Four channels of wireless microphone shall be provided, complete with rechargeable batteries, drop-in chargers, remote antennas, and accessories as indicated.
- d. Provide Bluetooth & 3.5mil to Dante input devices in each room.
- e. The loudspeaker system is comprised of existing ceiling-mounted speakers and a new amplifier.

2. Assistive Listening

- a. Provide two ADA-compliant FM-based assistive listening systems.
- b. Existing receivers, headsets and accessories will be reused.

3. Video Systems- Presentation

- a. An IP-based production video switching and routing system with scaling shall be provided to handle signals from all video devices. All input and output devices shall use CAT6A/STP cable as the means of transport to the AV rack room, where the ethernet switch is located. The switcher shall be fully HDCP compliant and support EDID.
 - 1) It is within the scope of this project to completely define and configure the EDID table. The presentation system shall operate at 1080p/60 4:4:4, 12-bit, with scaling as needed.
 - 2) Audio from the IP-based switching system shall be fed to the audio DSP via Dante/AES67 protocol.
- b. Two 7,000-lumen LCD laser-source video projectors with 16:9 aspect shall be provided with zoom lenses. Locate the projector so the zoom is between maximum extents. Provide mounting assembly as needed.
- c. Fixed projection screens shall be provided with the following options:

- 1) 16:9 aspect ratio
 - 2) Draper TekVision ALR front projection surface with black backing
 - 3) Wall mounts as needed
 - 4) Sized as indicated in the 274116-A equipment list
- d. Two existing lecterns shall be reused. Provide new inserts in the existing cable cubbies as needed. Include HDMI inputs and blank covers for any unused spaces.
- 1) Provide new podium mics on each lectern.
4. Control System
- a. A touch screen-based control system shall be provided for control over all applicable AV devices.
 - b. Color touchscreens with wall mounts shall be provided at locations indicated in the drawings.
 - 1) Touchscreen shall be iPads in wall mounts with hardwire connections for data and power via IP/POE connection.
 - 2) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - c. Provide a partition sensor to allow for room combine/separate functions. This shall also be manually selectable for activation/override from the touchpanel.
 - d. Link the system to the architectural lighting system, using proper means of connection to allow preset recall. It is in the scope of this section to provide whatever hardware interfacing and programming is necessary to connect to the 3rd party interface for a complete and working system.
 - e. Link the system to the motorized shade system, using proper means of connection to allow preset recall. It is in the scope of this section to provide whatever hardware interfacing and programming is necessary to connect to the 3rd party interface for a complete and working system.
 - f. All control system programming is the responsibility of the AV contractor and shall be submitted during the shop drawing phase for approval. See control system section below.
5. Utility/General
- a. Provide stamped, engineered structural drawings for all new mounting assemblies.
 - b. Equipment racks and power distribution are to be reused.
 - c. Provide new UPS system as indicated.
 - d. Provide network switches and RJ45 CAT6A STP patchbay for network patching.
 - e. Provide all required mounting hardware for a complete installation.
6. Control System Programming
- a. Touchpanels shall be configured with the most often-used device functions. Do not attempt to put every possible device function on the touchpanel.

- b. Provide the following minimum feature set at the touch panel:
 - 1) System Power On/Off
 - 2) Automixer, Wireless Mics, Video Source & Main System Volume
 - 3) Projectors On/Off, Mute, Source
 - 4) Matrix Switcher controls (source, routing, etc)
 - 5) Video conference controls (Zoom)
 - 6) Ceiling microphone controls
 - 7) PTZ camera functions and position recall
 - 8) Room divide (auto/override)
 - 9) Architectural Lighting Controls
 - 10) Motorized Shade Controls
- c. Provide (4) Macro command buttons on main page, to be determined by owner during the submittal period.
- d. Touchpanel programming is the responsibility of the contractor. An outline has been made above but does not include all functions required. The contractor is responsible to design a graphic user interface using the following guidelines:
 - 1) In automatic mode, use must be able to complete any function within two button presses.
 - 2) More important functions shall be more prominent on the interface.
 - 3) Like functions shall appear at the same place on every screen.
 - 4) Nesting menus are not allowed.
- e. The base template for the touchpanel shall be from the stock manufacturer line, with customization as necessary. The template colors shall be modified to match Organization colors, and the splash screen shall show the Organization's logo.

H. Network Configuration

- 1. Coordinate IP address ranges and assignments with the Owner's IT forces for all AV devices.
- 2. AV systems that operate on IP-based networks shall be properly configured, using manufacturer-recommended settings.
- 3. Provide a label on the back of each piece of network-connected equipment indicating it's IP address.
- 4. Unless otherwise noted in the Contract Documents, provide separate network switches and network architecture for each AV system network. If AV system networks are indicated as sharing network switches and associated architecture, each network shall be separated into one VLAN per sub-system.
- 5. It is within the scope of this section to fully coordinate with Owner's IT forces for proper network configuration, and to provide a properly designed, fully documented network system.

I. Warranty / SLA

- 1. Provide warranty as indicated in warranty section below. Provide separate line-item cost for additional years beyond the initial (2) years.

2. Provide separate line-item yearly cost for a Service Level Agreement (SLA). The SLA should generally include the following, subject to the specific offerings of each contractor.
 - a. Remote support via internet
 - b. Telephone & email support (during business hours): 2-hour response time
 - c. On-site support (during business hours): 8-hour response time
 - d. Telephone & email support (outside business hours): 2-hour response time
 - e. On-site support (outside business hours): 16-hour response time
 - f. Preventative Maintenance: (2) visits per year
 - g. Parts repair/replacement: labor included, non-warranty parts at cost
 - h. Shipping: Ground included
 - i. Loaner equipment included
 - j. User training included

1.6 ADD/ALTERNATES

A. Add/Alt #1 - Senior Center (entire system)

1. Audio Systems

- a. The reinforcement audio system is comprised of an automatic mixer system with automatic echo cancellation.
- b. The internal programming of the DSP is under the scope of this work, and shall be submitted for approval during the shop drawing process. The contractor is responsible to provide standard & customary DSP blocks, including necessary EQ, protection limiting, etc.
- c. Four channels of wireless microphone shall be provided, complete with rechargeable batteries, drop-in chargers, remote antennas, and accessories as indicated.
- d. Provide a Bluetooth & 3.5mil to Dante input device.
- e. Reuse an existing music streaming device.
- f. The loudspeaker system is comprised of new ceiling-mounted pendant speakers and new amplifiers.

2. Audio Systems – Building Wide

- a. An existing building-wide speaker system is to be re-used.
- b. Provide a new audio amplifier and connect to existing loudspeakers. Confirm signal on all loudspeakers.

3. Assistive Listening

- a. Provide an ADA-compliant FM-based assistive listening system.
- b. Provide receivers, headsets and accessories as indicated in the equipment list.

4. Video Systems- Presentation

- a. An IP-based production video switching and routing system with scaling shall be provided to handle signals from all video devices. All input and output devices shall use CAT6A/STP cable as the means of transport to the AV rack room, where the ethernet switch is located. The switcher shall be fully HDCP compliant and support EDID.
 - 1) It is within the scope of this project to completely define and configure the EDID table. The presentation system shall operate at 1080p/60 4:4:4, 12-bit, with scaling as needed.
 - 2) Audio from the IP-based switching system shall be fed to the audio DSP via Dante/AES67 protocol.
 - b. One direct-view LED screen shall be provided, complete with processor, wall mount, trim kit, Novastar controller, spares and all required accessories.
 - 1) Provide with the following minimum specifications:
 - a) Pixel Pitch: 1.56mm
 - b) LED type: COB Flip-Chip
 - c) Brightness: 800 nit
 - d) Refresh rate: 3840
 - e) Total system resolution: 1512x2688
 - 2) Provide with 10% spares kit.
 - 3) Provide with service tool.
 - 4) Coordinate with manufacturer for field installation and commissioning. Prepare as needed for on-site field commissioning prior to manufacturer representative arriving.
 - c. Provide a rack-mounted video monitor.
5. Control System
- a. A touch screen-based control system shall be provided for control over all applicable AV devices.
 - b. Color touchscreens with wall mounts shall be provided at locations indicated in the drawings.
 - 1) Touchscreen shall be iPads in wall mounts with hardwire connections for data and power via IP/POE connection.
 - 2) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - c. Portable touchscreens with charging dock shall be provided. Configure the system as needed to tie into the building WiFi system.
 - 1) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - d. Provide a rack-mounted touchscreen at the equipment rack for utility functions.

- e. All control system programming is the responsibility of the AV contractor and shall be submitted during the shop drawing phase for approval. See control system section below.
6. Utility/General
- a. Provide stamped, engineered structural drawings for all new mounting assemblies.
 - b. Provide new equipment rack and power distribution as indicated in the equipment list. Provide rack accessories as indicated in the specification.
 - c. Provide new UPS system as indicated.
 - d. Provide network switches and RJ45 CAT6A STP patchbay for network patching.
 - e. Provide all required mounting hardware for a complete installation.
7. Control System Programming
- a. Touchpanels shall be configured with the most often-used device functions. Do not attempt to put every possible device function on the touchpanel.
 - b. Provide the following minimum feature set at the touch panel:
 - 1) System Power On/Off
 - 2) Automixer, Wireless Mics, Video Source & Main System Volume
 - 3) LED screen On/Off, Mute, Source
 - 4) Matrix Switcher controls (source, routing, etc)
 - 5) Video conference controls (Zoom)
 - 6) PTZ camera functions and position recall
 - 7) Room divide (auto/override)
 - 8) Architectural Lighting Controls
 - 9) Motorized Shade Controls
 - c. Provide (4) Macro command buttons on main page, to be determined by owner during the submittal period.
 - d. Touchpanel programming is the responsibility of the contractor. An outline has been made above but does not include all functions required. The contractor is responsible to design a graphic user interface using the following guidelines:
 - 1) In automatic mode, use must be able to complete any function within two button presses.
 - 2) More important functions shall be more prominent on the interface.
 - 3) Like functions shall appear at the same place on every screen.
 - 4) Nesting menus are not allowed.
 - e. The base template for the touchpanel shall be from the stock manufacturer line, with customization as necessary. The template colors shall be modified to match Organization colors, and the splash screen shall show the Organization's logo.

B. Add/Alt #2 – Police Department Emergency Operations Center (entire system)

1. Audio Systems

- a. The reinforcement audio system is comprised of an automatic mixer system with automatic echo cancellation.
- b. The internal programming of the DSP is under the scope of this work, and shall be submitted for approval during the shop drawing process. The contractor is responsible to provide standard & customary DSP blocks, including necessary EQ, protection limiting, etc.
- c. Four channels of wireless microphone shall be provided, complete with rechargeable batteries, drop-in chargers, remote antennas, and accessories as indicated.
- d. The loudspeaker system is comprised of new ceiling-mounted speakers and a new amplifier.

2. Assistive Listening

- a. Provide an ADA-compliant FM-based assistive listening system.
- b. Provide receivers, headsets and accessories as indicated in the equipment list.
- c. Provide Pelican-style carry case for all receivers and accessories.

3. Video Systems- Presentation

- a. An IP-based production video switching and routing system with scaling shall be provided to handle signals from all video devices. All input and output devices shall use CAT6A/STP cable as the means of transport to the AV rack room, where the ethernet switch is located. The switcher shall be fully HDCP compliant and support EDID.
 - 1) It is within the scope of this project to completely define and configure the EDID table. The presentation system shall operate at 1080p/60 4:4:4, 12-bit, with scaling as needed.
 - 2) Audio from the IP-based switching system shall be fed to the audio DSP via Dante/AES67 protocol.
- b. Provide HDBT Tx/Rx pairs for floor box locations.
- c. Provide HDMI inputs at locations indicated.
- d. (4) CATV receivers shall be reused and connected to the system for both signal and control.
- e. (3) BYOD unit shall be provided, complete with USB-C based transmit pucks and cradle.
- f. Six LED displays with wall mounts shall be provided at locations shown on the drawings. Each location also has an IP to HDMI decode unit.
- g. Provide a rack-mounted video monitor.

4. Video Systems – EOC Conference

- a. Provide a bi-directional HDMI overflow system at the EOC conference room to include a local HDMI input to feed the EOC matrix, as well as an output to feed the local display.
- b. Reuse existing display and controls.

5. Control System
 - a. A touch screen-based control system shall be provided for control over all applicable AV devices.
 - b. Color touchscreens with wall mounts shall be provided at locations indicated in the drawings.
 - 1) Touchscreen shall be iPads in wall mounts with hardwire connections for data and power via IP/POE connection.
 - 2) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - c. Portable touchscreens with charging dock shall be provided. Configure the system as needed to tie into the building WiFi system.
 - 1) Provide Zoom (add/alt) and Crestron applications as needed for a complete system.
 - d. Provide a rack-mounted touchscreen at the equipment rack for utility functions.
 - e. Link the system to the architectural lighting system, using proper means of connection to allow preset recall. It is in the scope of this section to provide whatever hardware interfacing and programming is necessary to connect to the 3rd party interface for a complete and working system.
 - f. All control system programming is the responsibility of the AV contractor and shall be submitted during the shop drawing phase for approval. See control system section below.
6. Utility/General
 - a. Provide stamped, engineered structural drawings for all new mounting assemblies.
 - b. Equipment racks and power distribution are to be reused.
 - c. Provide new UPS system as indicated.
 - d. Provide network switches and RJ45 CAT6A STP patchbay for network patching.
 - e. Provide all required mounting hardware for a complete installation.
7. Control System Programming
 - a. Touchpanels shall be configured with the most often-used device functions. Do not attempt to put every possible device function on the touchpanel.
 - b. Provide the following minimum feature set at the touch panel:
 - 1) System Power On/Off
 - 2) Automixer, Wireless Mics, Video Source & Main System Volume
 - 3) LED screen On/Off, Mute, Source
 - 4) Matrix Switcher controls (source, routing, etc)
 - 5) Video conference controls (Zoom)
 - 6) PTZ camera functions and position recall
 - 7) Room divide (auto/override)

- 8) Architectural Lighting Controls
 - 9) Motorized Shade Controls
- c. Provide (4) Macro command buttons on main page, to be determined by owner during the submittal period.
 - d. Touchpanel programming is the responsibility of the contractor. An outline has been made above but does not include all functions required. The contractor is responsible to design a graphic user interface using the following guidelines:
 - 1) In automatic mode, use must be able to complete any function within two button presses.
 - 2) More important functions shall be more prominent on the interface.
 - 3) Like functions shall appear at the same place on every screen.
 - 4) Nesting menus are not allowed.
 - e. The base template for the touchpanel shall be from the stock manufacturer line, with customization as necessary. The template colors shall be modified to match Organization colors, and the splash screen shall show the Organization's logo.
- C. Add/Alt #3 – Community Hall Video Conferencing
1. The system shall allow the user to start a Zoom call from the touchpanel. When active, the PTZ cameras, wired & wireless mics, ceiling speakers, and related equipment shall be activated as needed to start a meeting without intervention of an AV technician.
 2. For audience view, provide (2) SDI pan/tilt/zoom cameras.
 3. For presenter view, provide (2) SDI pan/tilt/zoom cameras.
 4. Provide two Zoom Room computers for soft-codec integration with the self-service Zoom Room system via QSC USB connections for audio & camera, and USB to HDMI for program video.
 5. The system shall support up to two separate software-based conferencing calls at one time, when in “room divide” mode.
- D. Add/Alt #4 – Meeting Room Video Conferencing
1. The system shall allow the user to start a Zoom call from the touchpanel. When active, the tracking PTZ cameras, ceiling and wireless mics, ceiling speakers, and related equipment shall be activated as needed to start a meeting without intervention of an AV technician.
 2. The system shall use the basic QSYS ACPR system for participant camera switching. Configure the system as needed.
 3. Provide beamforming ceiling microphones as indicated. The audio signal from the microphones shall be used for Zoom conferencing, while the positional data shall be used by the tracking cameras.
 4. For audience view, provide (2) SDI pan/tilt/zoom cameras.
 5. For presenter view, provide (2) SDI pan/tilt/zoom cameras.
 6. Provide two Zoom Room computers for soft-codec integration with the self-service Zoom Room system via QSC USB connections for audio & camera, and USB to HDMI for program video.

7. The system shall support up to two separate software-based conferencing calls at one time, when in “room divide” mode.

E. Add/Alt #5 – Senior Center Video Conferencing

1. The system shall allow the user to start a Zoom call from the touchpanel. When active, the PTZ cameras, wired & wireless mics, ceiling speakers, and related equipment shall be activated as needed to start a meeting without intervention of an AV technician.
2. For audience view, provide (1) SDI pan/tilt/zoom camera.
3. For presenter view, provide (1) SDI pan/tilt/zoom camera.
4. Provide one Zoom Room computers for soft-codec integration with the self-service Zoom Room system via QSC USB connections for audio & camera, and USB to HDMI for program video.

F. Add/Alt #6 – Police Dept EOC Video Conferencing

1. The system shall allow the user to start a Zoom call from the touchpanel. When active, the tracking PTZ cameras, ceiling and wireless mics, ceiling speakers, and related equipment shall be activated as needed to start a meeting without intervention of an AV technician.
2. The system shall use the basic QSYS ACPR system for participant camera switching. Configure the system as needed.
3. Provide beamforming ceiling microphones as indicated. The audio signal from the microphones shall be used for Zoom conferencing, while the positional data shall be used by the tracking cameras.
4. For audience view, provide (1) SDI pan/tilt/zoom camera.
5. For presenter view, provide (1) SDI pan/tilt/zoom camera.
6. Provide one Zoom Room computer for soft-codec integration with the self-service Zoom Room system via QSC USB connections for audio & camera, and USB to HDMI for program video.

1.7 CURRENT TECHNOLOGY:

- A. Only the most current hardware and software shall be provided. In no case will discontinued or superseded products be acceptable. If the manufacturer has developed and successfully released products that meet or exceed the criteria within this specification, the Contractor shall notify the Architect and submit the new product for review. If accepted, the products shall be provided at no additional cost to the Owner. Software upgrades and authorized support services for its proper integration into the system shall be provided at no cost to the Owner throughout the warranty period.
- B. In the event of known product defaults or recall, the Contractor shall immediately notify the Architect and make immediate arrangements for remedy.
- C. None of the stipulations herein shall be grounds for revision to the Project schedule.
- D. See related procedures under Warranties in this Section.

1.8 SUBSTITUTIONS:

- A. All requests for substitutions from the specified materials, assemblies or related services shall be submitted for review by Architect in accordance with Section 01 – Substitution Procedures. Requests shall be made in a timely fashion to not affect the Project schedule in either case of the substitution being accepted or rejected.
- B. Documentation for the substitution shall be submitted with supporting material and shall including the related information for the item as specified so that equivalence can be demonstrated. The burden of proof rests solely upon the Contractor. The Architect shall be the sole evaluator of the fitness of the substitution.
- C. All expenses related to the substitution including, but not be limited to, all fees and expenses incurred in the evaluation of the substitution, and any effect on the costs and schedule of other trades whether or not the substitution is accepted, shall be borne by the Contractor.

1.9 SUBMITTALS:

A. General:

1. If permitted under Section 01– Submittal Procedures, all submittals shall be made in electronic format.
 - a. Files shall be in .pdf format and submitted electronically.
 - b. Clearly indicate submittal number and description in the file name of the document.
 - c. Each document shall be a separate file.
 - d. Markups will be made electronically, and the submittal returned via electronic means.
2. Submittals shall be made in a timely fashion so as to not affect the Project schedule and shall allow for adequate time for review and resubmittal. Partial submittals will not be acceptable and will be returned without review.
3. Submittals shall be reviewed, and field dimensions verified prior to commencing acquisition for, and fabrication of the Work in this section. All services and parts of the work in this section shall be verified through the submittal process.
4. Acceptance of any submitted data or shop drawings for material, equipment, apparatus, devices, arrangement and layout shall not relieve contractor from responsibility of furnishing same of proper dimensions and weight, capacities, sizes, quantity, and installation details to perform efficiently the requirements and intents of the systems design. Such acceptance shall not relieve the contractor from responsibility for error, omissions or inadequacies of any sort on submitted data or shop drawings.
5. Copies of contract drawings will not be accepted as shop drawings and will be returned without review.

- B. Prior to commencing work on shop drawings, the contractor shall facilitate a meeting between the contractor and Architect and their consultant to “walk through” the AV systems.

C. Shop Drawings:

1. Submit full-size (minimum 30” x 42”) scaled shop drawings that show the following:
 - a. Installation requirements and mounting conditions.

- b. Provide stamped structural drawings by a structural engineer licensed in the state in which the project takes place showing complete mounting details for all AV devices over 20 pounds.
- c. Full system riser diagram(s) illustrating interconnection of system components, wiring requirements, back box sizes and any special installation considerations.
- d. Block diagrams, showing equipment interconnection.
- e. Equipment rack and patchpanel drawings.
- f. Full-scale drawings of custom plates.
- g. Run sheets or field wiring drawings.
- h. Equipment modification drawings, including statement of purpose for modification and agreement to provide full manufacturer warranty, if modifications cause a voided warranty.
- i. Final schematic drawings of any custom circuitry.

D. AV Control System Touchpanels:

1. Provide a hosted web link for approval of working touchpanel files.
 - a. This generally requires the contractor to setup and host an active control system processor, with a secure web link to allow remote parties to view & control.
2. The AV contractor is responsible for design of touchpanel layouts, but shall be subject to consultant and Architect approval.
 - a. If the organization has an existing template, the AV contractor shall use that template and modify as needed to suit the project.

E. Product Data:

1. Submit a detailed equipment list, including manufacturer, model number, description and quantity for each item.
2. Do not submit equipment cut sheets, except for custom or non-standard devices.

F. Color Data:

1. Submit spreadsheet with color schedule for all equipment and devices, including custom plates, speakers, racks, furniture, etc. Room name and number shall be listed.
2. Show standard color options to allow design team to select.
3. Where no option for color is available, indicate as much.

G. DSP Programming:

- a. Internal DSP programming (submit as software file)

H. Samples:

1. Submit samples for review if requested. Samples may include, but are not limited to:

- a. Connector, panel and cable assemblies
 - b. Panel finish samples
 - c. Custom switch, button or similar assemblies
- I. Record Documents: Submit record documents in accordance with Section 01.
1. At time of final acceptance, submit regulatory listings and certifications as required by prevailing building codes.
 2. Submit electronic "as-builts" including:
 - a. Shop drawings, product data, operations and instructions manuals for all products provided.
 - b. Equipment list, with manufacturer, model number, serial number, IP address and MAC address for all installed devices.
 - c. Electronic backup of control system programming.
 - d. Electronic backup of DSP systems programming.
 - e. Care and maintenance instructions, service line and online contacts.
 - f. Warranty documents.
 - g. Key list, showing the following for all keys in the system: device name and model number, system controlled, key model number or other replacement identifier, tech support number for equipment manufacture, and thumbnail picture of device.
 3. Additionally, a USB thumb drive with all final configuration files for all system equipment (ie- control system, DSP system, etc.) shall be provided to the job site. The drive should be labeled and zip-tied inside the rear of the equipment rack.

1.10 WARRANTY:

- A. Warranty shall provide coverage of material and product defects and assembly workmanship or installation for a period of two years following the date of acceptance by the Architect.
- B. Items under warranty shall be serviced to the satisfaction of the Owner with 14 days of notification to the Contractor.
- C. The Contractor shall bear all costs that arise because of the warranty claim when service time exceeds 14 days, including, but not limited to, the use of temporary replacement components, additional Owner staffing or overtime, shipping, cancelled uses or performances.
- D. Activate all manufacturers' warranties in the name of the Owner, within one week of the date of acceptance.
- E. Provide three return visits following system acceptance to fine tune or repair any items requested by the Owner:
 1. 1 month following acceptance
 2. 1 year following acceptance
 3. 2 years following acceptance, prior to warranty expiration

1.11 QUALITY ASSURANCE:

- A. Equipment in this Section shall be provided by specialty subcontractors and manufacturers meeting the qualifications listed herein.

- B. All equipment shall be UL or ETL listed, or listed by UL-approved testing facilities, and bear the appropriate labels.

1.12 DELIVERY, STORAGE AND HANDLING:

- A. Packing shall prevent damage to the equipment during transit. Costs to repair or replace all equipment damaged during the course of the contract services shall be borne by the Contractor.
- B. Do not deliver materials in this Section until building is ready for installation. Contractor is responsible to properly sequence the work and to protect from damage during delivery, handling, storage and installation.
- C. Contractor is responsible to coordinate and provide secure and protected storage as required for the execution of the Contract.
 - 1. Devices shall not be delivered to the project site until the project is suitably clean and all adjacent finish work that may be painted or produce dust has been completed. The contract shall provide and maintain complete protection of all devices until the Project has been made available for occupancy by the Owner. The contractor shall thoroughly clean and remove any dirt or dust that infiltrates system components and be responsible for timely replacement of any damaged components.
 - 2. Device labels and connectors shall be delivered with temporary dust and paint protection installed.

1.13 PROJECT CONDITIONS:

- A. Defects in the field which may impact the work in this Section shall be reported to the Architect and corrected in accordance with the requirements of the applicable Section of Work prior to commencement of the Work in this Section.

1.14 MAINTENANCE:

- A. Provide maintenance stock of User-serviceable components within the system. Maintenance stock shall be packaged in weather resistant box labeled "spare parts for AV system" and turned over to the Client at time of system commissioning.
- B. Maintenance stock shall include:
 - 1. Package of spare parts for User-serviceable portions of the AV System
 - 2. In addition, provide:
 - a. Five connectors of each type in the system.
 - b. Six spare keys of each type in the system.
 - c. 10% of other miscellaneous parts required to service and maintain systems

PART 2 - PRODUCTS

2.1 SPECIALTY CONTRACTORS

- A. All AV contractors must submit proof of qualifications. See bid documents for submittal requirements. In order to qualify, the contractor shall submit the following information:

1. List of personnel who will be working on this Project, including skills, experience, and accreditations.
2. List of union affiliations, contractor licenses, and other applicable trade certifications.
3. List of projects completed within the past 5 years, with references. Provide phone and/or e-mail addresses for reference contacts.
4. Proof that at least 5 jobs in the past 5 years have a minimum contract value equal to or greater than the project listed herein, and are of similar type.
5. Proof that specialty subcontractor shall has been continuously engaged in the sales and integration of audio, video and communications equipment similar to that specified herein for a minimum of 10 years.
6. Proof that specialty subcontractor has at time of bid and will continuously maintain throughout the project and warranty period, a low voltage Specialty Contractor's license appropriate for the work in this Section, and in the state in which the project takes place.
7. Proof that specialty subcontractor employs field service technicians within a four-hour driving distance from the Project site.
8. Proof that specialty subcontractor employs personnel that will actively work on this project with the following minimum certifications:
 - a. Avixa/Infocomm CTS-I Certification
 - b. Dante Level 3 Certification
 - c. QSC – QSYS Level 2 Certification
 - d. Crestron – Master Certified Programmer (MCP)
 - e. Crestron – Master Technology Architect (MTA)
 - f. Netgear – AV Certification Level 1

2.2 MANUFACTURERS:

- A. AV equipment in this Section shall be provided by specialty manufacturers providing products meeting the specifications herein.
- B. Provide all equipment as listed in 274116-A, equipment list.

2.3 SYSTEMS:

A. Audio Systems General Requirements:

1. Grounding: All grounding in racks is the responsibility of the AV contractor. All devices shall be appropriately grounded to the isolated grounding system busbar.
2. Unbalanced Devices: Provide a balancing transformer for any unbalanced audio device, at both input and output.
3. Loudspeaker Rigging: All overhead loudspeaker rigging shall be reviewed and stamped by a licensed structural engineer working in the State in which the project takes place. The contractor is responsible to secure the structural stamp, including all expenses associated therein.

B. Video Systems General Requirements:

1. Per SMPTE requirements for SDI video. Refer to Contract Documents for SDI video standards requirements. Note – Assume a minimum format of 1080p59.94.

2.4 MATERIALS:

- A. All components supplied under this Section shall be new. Used or factory reconditioned components will not be acceptable.
- B. Cabling
 - 1. Provide cabling as indicated in the drawings.
- C. Wall-Mounted Swing-Out 19" Equipment Rack
 - 1. Provide Middle Atlantic DWR Series.
 - 2. Useable height shall be as required to fit equipment, useable depth shall be 26".
 - 3. 250 lb. weight capacity.
 - 4. All structural elements shall be finished in black powder coat.
 - 5. Rack shall be UL Listed.
 - 6. Follow attachment methods as described in the drawings, which meet structural criteria provided by the project structural engineer.
 - 7. Provide the following options:
 - a. Solid Front Door with keylock, model #FD-xx.
 - b. Custom rack mounts for equipment without rack ears, model #RSH-series.
 - c. Other items as shown in the equipment list.
 - 8. Provide the following for power management:
 - a. Provide rack-mounted power distribution & sequencing device as indicated in the equipment list.
 - 9. Provide the following for thermal management:
 - a. Dual 6" fan kit with accessories, model #DWR-FK6-26. One per rack.
 - b. Thermostatic Fan Control, model #FC-4-1CA. One per rack.
 - c. Vent panels at bottom of rack, model VT-series. One per rack.
- D. Connectors:
 - 1. Microphone and Line Level Audio
 - a. XLR-M, 3-pin:
 - 1) For panel-mount, Provide Neutrik NC3MD-L-1, 3-pole male XLR connector in black.
 - 2) For cable-end, provide Neutrik NC3MXX, 3-pole male connector.
 - b. XLR-F, 3-pin, Standard
 - 1) For panel-mount, Provide Neutrik NC3FD-L-1, 3-pole female XLR connector in black.
 - 2) For cable-end, provide Neutrik NC3FXX, 3-pole female connector.
 - c. XLR-F, 3-pin, Automixing (BLUE)

- 1) For panel-mount, Provide Whirlwind WC3F, 3-pole female XLR connector in blue color shell.
 - 2) No colored trim rings allowed, such as Neutrik.
- d. 1/4" Tip/Ring/Sleeve
- 1) For panel-mount, Provide Neutrik NJ3FP6C, locking tip/ring/sleeve connector.
 - 2) For cable-end, provide Neutrik NP3X, tip/ring/sleeve connector.
- e. Phono
- 1) For panel-mount, Provide Neutrik NF-2D series, with appropriate color isolation washer.
 - 2) For cable-end, provide Neutrik NF2C-B-2 "Profi" connector.
2. Production Intercom:
- a. XLR-M, 3-pin, Intercom (RED)
- 1) For panel-mount, Provide Whirlwind WC3M, 3-pole male XLR connector in red color shell.
 - 2) No colored trim rings allowed, such as Neutrik.
3. Integrated Control Systems:
- a. For panel-mount in configurations using legacy data and power bus (AxLink or Cresnet), provide Neutrik NC4FD-L-1, 4-pole female XLR connector.
 - b. For panel-mount in configurations using networked control bus, refer to RJ-45 data information below.
 - c. Cable-end configurations are project dependent. See drawings.
4. Loudspeaker:
- a. For panel-mount in 2 or 4-conductor applications, use Neutrik Speakon NL4MP 4-pole connector.
 - b. For panel-mount in 8-conductor applications, use Neutrik Speakon NL8MPR 8-pole connector.
 - c. For cable-end in 2 or 4-conductor applications, use Neutrik Speakon NL4FC 4-pole connector.
 - d. For cable-end in 8-conductor applications, use Neutrik Speakon NL8FC 8-pole connector.
5. Video:
- a. Production Video/12G:
- 1) For panel-mount, Provide Neutrik NBB75DFIX, recessed bulkhead jack, feed through, isolated connector.
 - 2) For cable-end, provide Neutrik NBNC75B-series, push-pull style connector. Use appropriate connector for cable specified.

- b. "F" Connector:
 - 1) For panel-mount, provide Holland G-F81F* inline barrel connector with 3.0 GHz minimum performance.
 - 2) For cable-end, provide Holland Superlok G-series compression connector with 3.0 GHz minimum performance.
6. RF Antenna – 50-ohm
 - a. For panel-mount, Provide Canare BJ-JRUD, recessed bulkhead jack, feed through, isolated connector.
 - b. For cable-end, provide Canare BP-C series. Use appropriate connector for cable specified.
7. Data:
 - a. RJ-45
 - 1) For panel-mount, provide Neutrik Ethercon NE8 series punch-down connector in black to match cable type.
 - 2) For cable end, provide Neutrik Ethercon NE8-series connectors in black to match cable type.
 - b. Fiber
 - 1) For panel-mount, provide Neutrik Opticalcon NO2-4FD feed-thru panel mount connectors.
 - 2) For cable end, provide Neutrik Opticalcon cables in quantities shown in 274116-A equipment list.
 - a) For SMPTE broadcast camera applications where Neutrik Opticalcon is indicated provide with both fiberoptic and copper terminations.
8. Data - Copper:
 - a. Provide Belden REVConnect Series Flush-Mount Modular Keystone Panel.
 - b. Provide with the following configuration:
 - 1) CAT 6A Shielded
 - 2) RJ45 jack with shielding to match 10GX cable type
 - 3) 1x24 jacks with 6" deep removeable rear lacing bar
 - 4) 1 designation strip in over configuration
 - 5) 1 RU
 - 6) Black in color
 - 7) Paper designation strips. Provide .doc file to Owner for future use.
 - 8) Provide Middle Atlantic "CLAW" patchcord holder, one per rack.

2.5 PANELS:

- A. General: The control receptacle panels shall consist of the appropriate connectors required for the system.

B. Physical:

1. Faceplates shall be 0.080" aluminum, edges eased, finished in fine texture, scratch-resistant powder coat, with fasteners countersunk.
 - a. Panels specified as flush mounted shall overlap back box by 1/2". Surface mounted panels shall match back box size with no gaps or overlap.
 - b. Coordinate back box type, size and mounting with Division 26 - Electrical.
2. Color shall match the finished wall color of the wall onto which it will be mounted, unless otherwise noted. Submit color table for review.
3. Panels noted as custom color shall be factory powder coated a color selected by the Architect. Legends shall be laser etched.
4. Laser etched labels 1/4" high characters minimum, unless otherwise noted.
 - a. Labeling shall be as indicated on the Drawings.
 - b. Use Arial font.
5. Wall mounted panels shall mount into an industry standard back box, depending on size and quantity of connectors.
6. Rack mounted panels shall mount within industry standard equipment racks.
7. Panels mounted in floor boxes shall include a translucent flexible vinyl dirt guard as indicated on Drawings.
8. Provide complete hardware for mounting on gridiron/catwalk/lighting grid hangers where indicated on the Drawings.
9. Provide aluminum cable tie-off bars in matching color on all panels 8" wide and larger, as indicated on the Drawings.
 - a. Keystone Electronics Corporation "Aluminum Oval Instrumentation Handles", part number 546, 5" wide x 2" deep handle. www.keyelco.com; 800-221- 5510

C. Floor Pockets:

1. Provide flush, floor mounted pockets with cover and cable slot. Lid finish and lid type to be determined during submittal period from manufacturer's standard line.
2. Provide interior, flexible translucent PVC/vinyl dirt guard to cover receptacles. Labels shall remain visible.
3. Provide floor pocket backboxes and pour pans (if conditions warrant) to Division 26 - Electrical for installation.

PART 3 - EXECUTION

3.1 INSTALLATION- GENERAL:

- A. Coordinate with Division 26 - Electrical for the proper installation of the conduit, backboxes, and electrical service as specified herein.
- B. Coordinate scheduling and access with the General Contractor or Construction Manager and provide personnel lifts or ladders as required for access to the AV equipment.

- C. Remove all packing materials from the Project Site. Insert operations and maintenance information into the Project record documents as specified above in Submittals.
- D. Provide a label on the back of each piece of network-connected equipment indicating it's IP address.
- E. Record Block Diagram: Post a laminated 11x17 as-built block diagram of the entire system (split into multiple sheets as necessary), and physically attached to the equipment rack in a logical location for Owner reference.

3.2 CABLE INSTALLATION:

- A. Mark cables, regardless of length, with permanent, non-handwritten number or letter cable markers within 6-inches of both ends. There shall be no unmarked cables in the system. Marking codes used on cables shall correspond to codes used on Drawings and schedules.
- B. As indicated on the Drawings, group cables according to signal type. Up to 6 separate conduit systems may be in place, divided as follows:
 - 1. A: Microphone Level Audio
 - 2. B: Line Level Audio
 - 3. C: Video and Communication Level
 - 4. D: Loudspeaker Level
 - 5. E: Empty/Future expansion
 - 6. F: Fiber Optic Level
- C. Maintain separation of signal types when outside of conduit.
- D. No cable shall be installed with a bend radius less than recommended by the manufacturer.
- E. Cable types shall be as indicated on the Drawings. In plenum spaces, provide the plenum version of the specified cable type.
- F. No cable splicing is allowed.

3.3 PROTECTION OF PROPERTY:

- A. Contractor is responsible to provide protection for all equipment, tools and materials delivered to the Project Site prior to final acceptance by Owner. Any loss or damage is the responsibility of the contractor, until final acceptance by Owner.

3.4 SEQUENCING:

- A. The Contractor shall not install any electronic equipment until the room where the equipment shall be located has been finally painted or otherwise finished and cleaned by the Contractor or Owner's Representative to be free of all dust and debris. Any damage to equipment resulting from failure to follow this requirement will result in the Contractor replacing the damaged equipment at their cost.

3.5 COMMISSIONING AND DEMONSTRATION:

- A. Coordinate with Division 26 - Electrical.
- B. Appropriately trained personnel shall review, test, program and otherwise complete the system, following completion of installation.

- C. Upon completion of the installation, the Contractor shall notify the Architect that the system is available for formal checkout. Notification shall be provided in writing. Checkouts shall be scheduled in accordance with the Architect's schedule.
- D. Audio System Tuning:
1. Following complete system installation, each device shall be set for correct gain-staging.
 - a. This is best accomplished with an oscilloscope and a 400Hz tone generator, but other methods may be used.
 - b. If the system has been set correctly, the console's VU meters will be at zero when the system is accomplishing the specified dB-SPL level. Every device in the audio signal path should clip at the same level, maximizing headroom and keeping the noise floor to a minimum.
 2. System shall be tuned prior to final checkout by contractor, using a computer-based audio analysis program, such as SMAART, TEF, or SIMM. A factory-certified individual shall carry out the tuning.
- E. Provide to the Architect and or their Consultant the following upon arrival:
1. Measurements of impedance of each loudspeaker prior to connecting it to an amplifier.
 2. Measurements confirming the polarity of each loudspeaker, from output of console through entire system.
 3. Measurements showing all Ethernet wiring complies with Category 5e or Category 6 requirements for full bandwidth operation.
 4. Verification that every line has been sweep tested and conforms to standard requirements per signal level.
 5. Measurements showing CATV output voltage at each TV outlet.
 6. Demonstration of input and output of signal throughout the entire audio system.
- F. Make available for review by the Architect and or their Consultant:
1. All components for physical inspection and inventory.
 2. A computer to access any DSP units.
 3. All installed devices in full operation, with no temporary equipment in place.
 4. All portable devices, fully complete, and available to test at all plug-in locations.
 5. Test equipment, including:
 - a. High quality media for every presentation source
 - b. HDMI & HD-SDI test generators
 - c. Portable TV with CATV receiver input
 - d. AC voltmeter
 - e. Sound level meter
 - f. Portable amplified loudspeaker
 - g. Audio analysis equipment (provides real time display, pink noise source, test oscillator, level and THD+N measurements)
 - h. Cablesets, adapters, and connectors for inserting the test equipment into and out of the system's user interfaces and connector plates.

- G. The Contractor shall be liable for any return visits by the Architect and/or their consultant as a result of incomplete or incorrect installation, or erroneous representation that the Systems are complete and ready for the Architect to carry out its work.
- H. The Contractor shall arrange for access as necessary for inspection of equipment by the Architect and or their consultant
- I. Upon completion of the commissioning, Contractor shall demonstrate operation and maintenance of the system to the Owner. Coordinate with the Owner's schedules two weeks in advance minimum.

3.6 TRAINING:

A. Provide training as follows:

- 1. Two days during commissioning period for maintenance staff.
- 2. Two days with user group one week prior to initial handover to users.
- 3. One day with user group and maintenance staff one month after initial training.
- 4. One day with user group and maintenance staff one year after initial training, but prior to warranty expiration.

B. Training shall include, but not be limited to:

- 1. Safety precautions.
- 2. Identification of all elements provided under this section.
- 3. Maintenance, diagnostics and trouble shooting.
- 4. Operation of system, including necessary software training.
- 5. Operations and maintenance manual orientation.

3.7 PROJECT CLOSEOUT:

- A. See submittal section above for required closeout documents.

3.8 APPENDIX:

- A. 27 41 16-A Equipment List

City of Brentwood AV Systems Equipment List

- Notes: 1. Conduit, backboxes and electrical power required for A/V systems are existing.
 2. This list contains key components, but does not list every piece needed for a complete system.
 Contractor is responsible to provide a complete and working sytem, regardless of the completeness of this list.
 3. A/R = As Required.
 4. OFCI = Owner Furnish, Contractor Install

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
CIVIC CENTER - COMMUNITY HALL 1/2					
	Audio System - Reinforcement	Bid Item 1			
	<i>DSP</i>				
1MA	Audio DSP w/ USB, 8x8 Dante	QSC	Core 110f v2	1	
2MA	Audio DSP - 32x32 Dante License	QSC	SLDAN-32-P	1	
3MA	Bluetooth & 3.5mil Interface, Decora, Dante	RDL	DD-BTN44	2	
4MA	<i>Wireless Mics</i>				
5MA	Wireless Mic Receiver,	Shure	QLXD4	4	4 total channels
6MA	Wireless Mic Handheld Tx	Shure	QLXD/SM58	4	
7MA	Wireless Mic Bodypack Tx	Shure	QLXD1	2	
8MA	Wireless Mic - Lavaliers	Countryman	B3	2	
9MA	Rechargeable Battery	Shure	SB900A	4	
10MA	Rechargeable Battery Charger, Dual + PSU	Shure	SBC200 US	2	
11MA	Active Antenna, White	Shure	UA864	2	
12MA	<i>Reinforcement Systems</i>				
13MA	Ceiling Loudspeaker, High Ceiling	<reuse existing>	<reuse existing>	0	<Qty: 12 - reuse existing>
14MA	Amplifier, 2-ch, 175w/ch @ 70V	QSC	SPA4-100	1	bridge channels
15MA	<i>Building-Wide Systems</i>				
15MA	Phone-Based Paging Appliance	Algo	8301-IC	1	Informacast Version
16MA	Ceiling Loudspeaker	<reuse existing>	<reuse existing>	0	<Qty: 59 - reuse existing>
17MA	Amplifier, 8-ch, 500w/ch @ 70V	QSC	CX-Q 4K8	1	
18MA					
19MA					
20MA	Miscellaneous Hardware				
21MA	Wire & Cable				
22MA	Labor				

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
	Assistive Listening	Bid Item 2			
1AL	FM Transmitter	Listen Technologies	LT-800	0	<Qty: 2 - reuse existing>
2AL	FM Transmitter - Rackmount	Listen Technologies	LA-326	0	<Qty: 1 - reuse existing>
3AL	FM Transmitter Antenna	Listen Technologies	LA-123	0	<Qty: 2 - reuse existing>
4AL	FM Transmitter, Power Supply	Listen Technologies	LA-207	2	
5AL	Receivers, headphones, accy	Listen Technologies	<reuse existing>	0	<reuse existing>
6AL					
7AL					
8AL	Miscellaneous Hardware				
9AL	Wire & Cable				
10AL	Labor				
	Video Systems- Presentation	Bid Item 3			
1VI	Switching & Transport				
2VI	4k/60 HDMI over IP Encode, Decora	VSI	E5-WP-H Encoder	6	
3VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	3	CATV & local input
4VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	3	LED displays & HDMI out panel
5VI	HDMI over IP Decode, Brick (Dante/audio output)	VSI	Duet D-5	1	rack mon
6VI	Rack Mount System for IP over AV Enc/Dec (3 unit)	VSI	X4x00 Rackmount	A/R	
7VI	4k/60 HDMI over CAT, Decora RX	Crestron	HD-TXC-4KZ-101	1	panel
8VI	4k/60 HDMI over CAT, Brick TX	Crestron	HD-RXC-4KZ-101-1G	1	
9VI	Rack Monitor				
10VI	Dual 7" LCD	Marshall	ML-702	1	
11VI	Sources				
12VI	CATV Tuner	OFCI	OFCI	0	<Qty: 2 - reuse existing>
13VI	LED Display				
14VI	LED Video Wall, 1.5mil (216" diag)	ATS Pro	WN Pro Flip Chip COB - 1.5mm	2	A10s Pro cards & 10% spares
15VI	LED Processor	Novastar/ATS Pro	MX30	2	
16VI	Spares Kit	ATS Pro	5% spares	2	hubs, graphics cards, PSUs
17VI	Vacuum Tool for Service	ATS Pro	Vacuum Tool	1	
18VI	LED Video Wall Mount	ATS Pro	Wall Mount System	2	
19VI	Trim Kit	ATS Pro	Trim Kit	2	
20VI	Manufacturer On-Site Commissioning	ATS Pro	Onsite Commissioning	2	
21VI	Shipping	ATS Pro	Shipping - Sea Freight	2	
22VI	Lectern				
23VI	Cable Cubby	Extron	Cable Cubby 600	0	<Qty: 2 - reuse existing>
24VI	Cable Cubby- AAP Plates	Extron	HDMI cable pass-thru, Blanks	2	Provide HDMI & Blanks
25VI	Lectern	<reuse existing>	<reuse existing>	0	<Qty: 2 - reuse existing>
26VI					
27VI					
28VI	Miscellaneous Hardware				
29VI	Wire & Cable				
30VI	Labor				

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
	Control System	Bid Item 4			
1CS	Control System Processor, Main	Crestron	CP4N	1	
2CS	Room Controller - Fixed				
3CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	2	
4CS	Wall Mount for iPad	Heckler	H755-BG	2	
5CS	Ethernet & PoE+ USB-C Adapter	Heckler	Adapter	2	provide right-angle USB-C adapter
6CS	Zoom Room App	Zoom	Zoom Room App	2	
7CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	2	
8CS	Room Controller - Portable				
9CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	2	
10CS	Docking Sleeve for iPad	iPort	Connect Pro Case	2	
11CS	Charging Base station for iPad	iPort	Connect Pro BaseStation	2	
12CS	Zoom Room App	Zoom	Zoom Room App	2	
13CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	2	
14CS	Rack Controls				
15CS	Touchpanel, Wired, 10", Wall Mount	Crestron	TSW-1070-B-S	1	Rack
16CS	Rackmount for 10" touchpanel	Crestron	TSW-1070-RMK-2	1	
17CS	Accessories				
18CS	Room Divider Sensor	Crestron	GLS-PART-CN	1	
19CS	Control System Accessories	Crestron	A/R	1	Distribution, PSU, etc.
20CS	Control System Programming	Contractor	Custom	1	Use certified programmer
21CS	Integration to Lighting System	Contractor	Custom	1	Lutron
22CS	Integration to Shade System	Contractor	Custom	1	Somfy
23CS					
24CS					
25CS	Miscellaneous Hardware				
26CS	Wire & Cable				
27CS	Labor				
	Utility, Plates & Panels	Bid Item 5			
1UT	Equipment Rack - 1F Stage				
2UT	Equipment Racks & Accessories, Swing-Out	Middle Atlantic	<reuse existing>	0	<Qty: 2 - reuse existing>
3UT	Power raceway & Sequencing	Middle Atlantic	<reuse existing>	0	<Qty: 2 - reuse existing>
4UT	UPS, Rackmount, 2200VA, Fanless, IP Control	APC	Smart UPS X Series	2	
5UT	Power Distribution, IP Control	APC	Rack PDU 2G Series	2	
6UT	Network				
7UT	Ethernet Switch, Gigabit, rackmount, POE	Netgear	M4250 Series	A/R	Provide 25% spare ports
8UT	Data Patchbay / RJ-45 / CAT6A STP	Belden	REVConnect Series	A/R	see specs for further info
9UT	RJ-45 to RJ-45 CAT6A STP Patch Cable, 3'	Comprehensive	CAT6A-3BLU	10	

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
6AL					
7AL	Miscellaneous Hardware				
8AL	Wire & Cable				
9AL	Labor				
	Video Systems- Presentation	Bid Item 8			
1VI	<i>Switching & Transport</i>				
2VI	4k/60 HDMI over IP Encode, Decora	VSI	E5-WP-H Encoder	2	Floor Box
3VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	2	Projectors
4VI	HDMI over IP Decode, Brick (Dante/audio output)	VSI	Duet D-5	1	
5VI	Rack Mount System for IP over AV Enc/Dec (3 unit)	VSI	X4x00 Rackmount	A/R	
6VI	<i>Projection</i>				
7VI	Video Projector, 7k Lm, 1920x1200, LCD, Lens	Panasonic	PT-VMZ71	2	White
8VI	Projector Mount & Accessories	Chief Mfg	A/R	2	with accessories, see drawings
9VI	Projection Screen, 16:9, Fixed	Draper	Profile+	2	see drawings for size
10VI	Projection Screen Material - TecVision (0.9 Gain, Grey)	Draper	TecVision XH900X ALR	2	
11VI	<i>Lectern</i>				
12VI	Cable Cubby	Extron	Cable Cubby 600	0	<Qty: 2 - reuse existing>
13VI	Cable Cubby- AAP Plates	Extron	HDMI cable pass-thru, Blanks	2	
14VI	Lectern Mic	Shure	MX418S/C	2	
15VI	Lectern	<reuse existing>	<reuse existing>	0	<Qty: 2 - reuse existing>
16VI					
17VI					
18VI	Miscellaneous Hardware				
19VI	Wire & Cable				
20VI	Labor				
	Control System	Bid Item 9			
1CS	Control System Processor, Main	Crestron	CP4N	1	
2CS	<i>Room Controller - Fixed</i>				
3CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	2	
4CS	Wall Mount for iPad	Heckler	H755-BG	2	
5CS	Ethernet & PoE+ USB-C Adapter	Heckler	Adapter	2	provide right-angle USB-C adapter
6CS	Zoom Room App	Zoom	Zoom Room App	2	
7CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	2	
8CS	<i>Accessories</i>				
9CS	Room Divider Sensor	Crestron	GLS-PART-CN	1	
10CS	Control System Accessories	Crestron	A/R	1	Distribution, PSU, etc.
11CS	Control System Programming	Contractor	Custom	1	Use certified programmer
12CS	Integration to Lighting System	Contractor	Custom	1	Lutron
13CS	Integration to Shade System	Contractor	Custom	1	Somfy
14CS					

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
SENIOR CENTER - MEETING ROOM					
		ADD/ALT #AV1			
Audio System - Reinforcement		Bid Item 13			
<i>DSP</i>					
1MA	Audio DSP w/ USB, 8x8 Dante	QSC	Core 8 Flex	1	
2MA	Audio DSP - 32x32 Dante License	QSC	SLDAN-32-P	1	
3MA	Bluetooth & 3.5mil Interface, Decora, Dante	RDL	DD-BTN44	1	
4MA	Music Streaming Device	<reuse existing>	<reuse existing>	0	<Qty: 1 - reuse existing>
<i>Wireless Mics</i>					
6MA	Wireless Mic Receiver,	Shure	QLXD4	4	4 total channels
7MA	Wireless Mic Handheld Tx	Shure	QLXD/SM58	4	
8MA	Wireless Mic Bodypack Tx	Shure	QLXD1	2	
9MA	Wireless Mic - Lavalier	Countryman	B3	2	
10MA	Rechargeable Battery	Shure	SB900A	4	
11MA	Rechargeable Battery Charger, Dual + PSU	Shure	SBC200 US	2	
12MA	Active Antenna, White	Shure	UA864	2	
<i>Reinforcement Systems</i>					
14MA	Ceiling Loudspeaker, High Ceiling Pendant	JBL	Control 67 HC/T	16	White
15MA	Amplifier, 1-ch, 350w/ch @ 70V	QSC	SPA2-200	3	
16MA					
17MA					
18MA	Miscellaneous Hardware				
19MA	Wire & Cable				
20MA	Labor				
<i>Assistive Listening</i>					
		Bid Item 14			
1AL	FM Transmitter	Listen Technologies	LT-800	1	
2AL	FM Transmitter - Rackmount	Listen Technologies	LA-326	1	
3AL	FM Transmitter Antenna	Listen Technologies	LA-123	1	
4AL	FM Receiver, Multi-Channel w/ Battery	Listen Technologies	LR-4200	12	
5AL	12-unit Charging Case	Listen Technologies	LA-380	1	
6AL	Inductive Loop	Listen Technologies	LA-430	4	
7AL	Earphone	Listen Technologies	LA-402	12	
8AL					
9AL					
10AL	Miscellaneous Hardware				
11AL	Wire & Cable				
12AL	Labor				

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
	Video Systems- Presentation	Bid Item 15			
1VI	<i>Switching & Transport</i>				
2VI	4k/60 HDMI over IP Encode, Decora	VSI	E5-WP-H Encoder	2	
3VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	1	local input
4VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	1	LED
5VI	HDMI over IP Decode, Brick (Dante/audio output)	VSI	Duet D-5	1	rack mon
6VI	Rack Mount System for IP over AV Enc/Dec (3 unit)	VSI	X4x00 Rackmount	A/R	
7VI	<i>Rack Monitor</i>				
8VI	Dual 7" LCD	Marshall	ML-702	1	
9VI	<i>LED Display - Main</i>				
10VI	LED Video Wall, 1.5mil	ATS Pro	WN Pro Flip Chip COB - 1.5mm	1	A10s Pro cards & 3% spares
11VI	LED Processor	Novastar/ATS Pro	MX30	1	
12VI	Spares Kit	ATS Pro	10% spares	1	hubs, graphics cards, PSUs
13VI	Vacuum Tool for Service	ATS Pro	Vacuum Tool	1	
14VI	LED Video Wall Mount	ATS Pro	Wall Mount System	1	
15VI	Trim Kit	ATS Pro	Trim Kit	1	
16VI	Manufacturer On-Site Commissioning	ATS Pro	Onsite Commissioning	1	
17VI	5 year Warranty	ATS Pro	5 Year Warranty	1	
18VI	Shipping	ATS Pro	Shipping - Sea Freight	1	
19VI					
20VI					
21VI	Miscellaneous Hardware				
22VI	Wire & Cable				
23VI	Labor				
	Control System	Bid Item 16			
1CS	Control System Processor, Main	Crestron	CP4N	1	
2CS	<i>Room Controller - Fixed</i>				
3CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	2	
4CS	Wall Mount for iPad	Heckler	H755-BG	2	
5CS	Ethernet & PoE+ USB-C Adapter	Heckler	Adapter	2	provide right-angle USB-C adapter
6CS	Zoom Room App	Zoom	Zoom Room App	2	
7CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	2	
8CS	<i>Room Controller - Portable</i>				
9CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	1	
10CS	Docking Sleeve for iPad	iPort	Connect Pro Case	1	
11CS	Charging Base station for iPad	iPort	Connect Pro BaseStation	1	
12CS	Zoom Room App	Zoom	Zoom Room App	1	
13CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	1	
14CS	<i>Rack Controls</i>				
15CS	Touchpanel, Wired, 10", Wall Mount	Crestron	TSW-1070-B-S	1	Rack
16CS	Rackmount for 10" touchpanel	Crestron	TSW-1070-RMK-2	1	

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
17CS	<i>Accessories</i>				
18CS	Control System Accessories	Crestron	A/R	1	Distribution, PSU, etc.
19CS	Control System Programming	Contractor	Custom	1	Use certified programmer
20CS					
21CS					
22CS	Miscellaneous Hardware				
23CS	Wire & Cable				
24CS	Labor				
	<i>Utility, Plates & Panels</i>	Bid Item 17			
1UT	<i>Equipment Rack - 1F Stage</i>				
2UT	Equipment Racks & Accessories, Swing-Out	Middle Atlantic	DWR Series	1	
3UT	UPS, Rackmount, 2200VA, Fanless, IP Control	APC	Smart UPS X Series	1	
4UT	Power Distribution, IP Control	APC	Rack PDU 2G Series	1	
5UT	<i>Network</i>				
6UT	Ethernet Switch, Gigabit, rackmount, POE	Netgear	M4250 Series	A/R	Provide 25% spare ports
7UT	Data Patchbay / RJ-45 / CAT6A STP	Belden	REVConnect Series	A/R	see specs for further info
8UT	RJ-45 to RJ-45 CAT6A STP Patch Cable, 3'	Comprehensive	CAT6A-3BLU	10	
9UT	<i>Plates & Panels</i>				
10UT	Gang Panel	Contractor	Contractor	A/R	
11UT	Multi-I/O Panel	Contractor	Contractor	A/R	
12UT					
13UT					
14UT	Miscellaneous Hardware				
15UT	Wire & Cable				
16UT	Labor				

REFERENCE ONLY

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
POLICE DEPARTMENT - EOC					
		ADD/ALT #AV2			
Audio System - Reinforcement		Bid Item 18			
<i>DSP</i>					
1MA	Audio DSP w/ USB, 8x8 Dante	QSC	Core 8 Flex	1	
2MA	Audio DSP - 32x32 Dante License	QSC	SLDAN-32-P	1	
3MA	<i>Wireless Mics</i>				
4MA	Wireless Mic Receiver,	Shure	QLXD4	4	4 total channels
5MA	Wireless Mic Handheld Tx	Shure	QLXD/SM58	4	
6MA	Wireless Mic Bodypack Tx	Shure	QLXD1	2	
7MA	Wireless Mic - Lavalier	Countryman	B3	2	
8MA	Rechargeable Battery	Shure	SB900A	4	
9MA	Rechargeable Battery Charger, Dual + PSU	Shure	SBC200 US	2	
10MA	<i>Reinforcement Systems</i>				
11MA	Ceiling Loudspeaker	QSC	AD-C6T-ZB-WH	8	
12MA	Amplifier, 1-ch, 350w/ch @ 70V	QSC	SPA2-200	1	
13MA					
14MA					
15MA	Miscellaneous Hardware				
16MA	Wire & Cable				
17MA	Labor				
Assistive Listening		Bid Item 19			
1AL	FM Transmitter	Listen Technologies	LT-800	1	
2AL	FM Transmitter - Rackmount	Listen Technologies	LA-326	1	
3AL	FM Transmitter Antenna	Listen Technologies	LA-123	1	
4AL	FM Receiver, Multi-Channel w/ Battery	Listen Technologies	LR-4200	4	
5AL	Carry case for RX & accy	Pelican	A/R	1	
6AL	4-unit USB charger	Listen Technologies	LA-423	1	
7AL	Inductive Loop	Listen Technologies	LA-430	2	
8AL	Earphone	Listen Technologies	LA-402	4	
9AL					
10AL					
11AL	Miscellaneous Hardware				
12AL	Wire & Cable				
13AL	Labor				

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
	Video Systems- Presentation	Bid Item 20			
1VI	<i>Switching & Transport</i>				
2VI	4k/60 HDMI over CAT, Decora TX	Crestron	HD-TXC-4KZ-101-1G	2	Floor Box
3VI	4k/60 HDMI over CAT, Brick RX	Crestron	HD-RXC-4KZ-101	2	
4VI	4k/60 HDMI over IP Encode, Decora	VSI	E5-WP-H Encoder	6	Inputs @ Displays
5VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	9	CATV, BYOD, FB
6VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	6	Outputs @ Displays
7VI	HDMI over IP Decode, Brick (Dante/audio output)	VSI	Duet D-5	1	rack mon
8VI	Rack Mount System for IP over AV Enc/Dec (3 unit)	VSI	X4x00 Rackmount	A/R	
9VI	<i>Sources</i>				
10VI	CATV Tuner	Xfinity	CATV Rx	0	(Qty: 4- reuse existing)
11VI	BYOD Device	Crestron	AM-3100-WF	3	
12VI	BYOD Device, Adapter	Crestron	AM-TX3-100	4	
13VI	BYOD Device, Adapter Cradle	Crestron	AM-TX3-100-CRADLE	1	
14VI	Rack Shelf	Middle Atlantic	A/R	A/R	CATV & BYOD
15VI	<i>Rack Monitor</i>				
16VI	Dual 7" LCD	Marshall	ML-702	1	
17VI	<i>Display - 86"</i>				
18VI	86" LCD Monitor, 4K, 232/IP control, LED	Panasonic	TH-86CQE2U	1	
19VI	Wall Mount Assembly	<reuse existing>	<reuse existing>	0	(Qty: 1- reuse existing)
20VI	<i>Display - 65"</i>				
21VI	65" LCD Monitor, 4K, 232/IP control, LED	Panasonic	TH-65CQE2U	5	or equal
22VI	Wall Mount Assembly - Articulating	Chief Mfg	PN-RUB	5	
23VI	<i>Lectern</i>				
24VI	Cable Cubby	Extron	Cable Cubby 600	0	(Qty: 1- OFCI)
25VI	Cable Cubby- AAP Plates	Extron	HDMI cable pass-thru, Blanks	1	
26VI	Lectern	<reuse existing>	<reuse existing>	0	(Qty: 1- OFCI)
27VI					
28VI					
29VI	Miscellaneous Hardware				
30VI	Wire & Cable				
31VI	Labor				
	Control System	Bid Item 21			
1CS	Control System Processor, Main	Crestron	CP4N	1	
2CS	<i>Room Controller - Fixed</i>				
3CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	1	
4CS	Wall Mount for iPad	Heckler	H755-BG	1	
5CS	Ethernet & PoE+ USB-C Adapter	Heckler	Adapter	1	provide right-angle USB-C adapter
6CS	Zoom Room App	Zoom	Zoom Room App	1	
7CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	1	

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
8CS	<i>Room Controller - Portable</i>				
9CS	Touchpanel Controller, 10"	Apple	iPad 10th Gen	1	
10CS	Docking Sleeve for iPad	iPort	Connect Pro Case	1	
11CS	Charging Base station for iPad	iPort	Connect Pro BaseStation	1	
12CS	Zoom Room App	Zoom	Zoom Room App	1	
13CS	Crestron iPad App	Crestron	Control app for Zoom Rooms	1	
14CS	<i>Rack Controls</i>				
15CS	Touchpanel, Wired, 10", Wall Mount	Crestron	TSW-1070-B-S	1	Rack
16CS	Rackmount for 10" touchpanel	Crestron	TSW-1070-RMK-2	1	
17CS	<i>Accessories</i>				
18CS	Control System Accessories	Crestron	A/R	1	Distribution, PSU, etc.
19CS	Control System Programming	Contractor	Custom	1	Use certified programmer
20CS	Integration to Lighting System	Contractor	Custom	1	Lutron
21CS					
22CS					
23CS	Miscellaneous Hardware				
24CS	Wire & Cable				
25CS	Labor				
	Utility, Plates & Panels	Bid Item 22			
1UT	<i>Equipment Rack</i>				
2UT	Equipment Racks & Accessories, Pull-Out	Middle Atlantic	MPR-AXS	0	(Qty: 1- reuse existing)
3UT	UPS, Rackmout, 2200VA, Fanless, IP Control	APC	Smart UPS X Series	1	
4UT	Power Distribution, IP Control	APC	Rack PDU 2G Series	1	
5UT	<i>Network</i>				
6UT	Ethernet Switch, Gigabit, rackmount, POE	Netgear	M4250 Series	A/R	Provide 25% spare ports
7UT	Data Patchbay / RJ-45 / CAT6A STP	Belden	REVConnect Series	A/R	see specs for further info
8UT	RJ-45 to RJ-45 CAT6A STP Patch Cable, 3'	Comprehensive	CAT6A-3BLU	10	
9UT	<i>Plates & Panels</i>				
10UT	Gang Panel	Contractor	Contractor	A/R	
11UT	Multi-I/O Panel	Contractor	Contractor	A/R	
12UT					
13UT					
14UT	Miscellaneous Hardware				
15UT	Wire & Cable				
16UT	Labor				

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
CIVIC CENTER - COMMUNITY HALL 1/2					
		ADD/ALT #AV3			
Video Conferencing		Bid Item 23			
<i>Cameras & I/O</i>					
1VI	PTZ Camera, QSYS	QSC	NC-20x60	4	includes mount
2VI	Audio DSP - USB Bridge	QSC	I/O USB Bridge	1	Zoom #2
3VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	2	
4VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	2	
5VI	<i>Zoom Room Codec</i>				
6VI	CPU, Key, Mouse	Dell	OptiPlex Micro	2	or sim
7VI	Rack Shelf for CPU	Middle Atlantic	A/R	2	
8VI	HDMI to USB	A/R	A/R	2	screen share input
9VI	Zoom Room software	Zoom	Zoom Room	0	(Qty: 2- OFCI)
10VI					
11VI					
12VI	Miscellaneous Hardware				
13VI	Wire & Cable				
14VI	Labor				
CIVIC CENTER - MEETING ROOMS 1/2					
		ADD/ALT #AV4			
Video Conferencing		Bid Item 24			
<i>Cameras & I/O</i>					
1VI	PTZ Camera, QSYS	QSC	NC-12x80	4	
2VI	Audio DSP - USB Bridge	QSC	I/O USB Bridge	1	Zoom #2
3VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	2	
4VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	2	
5VI	<i>Ceiling Microphone</i>				
6VI	Beamforming Microphone	Sennheiser	TCC-M	4	
7VI	<i>Zoom Room Codec</i>				
8VI	CPU, Key, Mouse	Dell	OptiPlex Micro	2	or sim
9VI	Rack Shelf for CPU	Middle Atlantic	A/R	2	
10VI	HDMI to USB	A/R	A/R	2	screen share input
11VI	Zoom Room software	Zoom	Zoom Room	0	(Qty: 2- OFCI)
12VI					
13VI					
14VI	Miscellaneous Hardware				
15VI	Wire & Cable				
16VI	Labor				

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
SENIOR CENTER - MEETING ROOM					
		ADD/ALT #AV5			
Video Conferencing					
<i>Cameras & I/O</i>					
1VI	PTZ Camera, QSYS	QSC	NC-20x60	2	includes mount
2VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	1	
3VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	1	
4VI	<i>Zoom Room Codec</i>				
5VI	CPU, Key, Mouse	Dell	OptiPlex Micro	1	or sim
6VI	Rack Shelf for CPU	Middle Atlantic	A/R	1	
7VI	HDMI to USB	A/R	A/R	1	screen share input
8VI	Zoom Room software	Zoom	Zoom Room	0	(Qty: 1- OFCI)
9VI					
10VI					
11VI	Miscellaneous Hardware				
12VI	Wire & Cable				
13VI	Labor				
POLICE DEPARTMENT - EOC					
		ADD/ALT #AV6			
Video Conferencing					
<i>Cameras & I/O</i>					
1VI	PTZ Camera, QSYS	QSC	NC-20x60	2	includes mount
2VI	4k/60 HDMI over IP Encode, Brick	VSI	E5100	1	
3VI	4k/60 HDMI over IP Decode, Brick	VSI	D5100	1	
4VI	<i>Ceiling Microphone</i>				
5VI	Beamforming Microphone	Sennheiser	TCC-M	2	
6VI	<i>Zoom Room Codec</i>				
7VI	CPU, Key, Mouse	Dell	OptiPlex Micro	1	or sim
8VI	Rack Shelf for CPU	Middle Atlantic	A/R	1	
9VI	HDMI to USB	A/R	A/R	1	screen share input
10VI	Zoom Room software	Zoom	Zoom Room	0	(Qty: 1- OFCI)
11VI					
12VI					
13VI	Miscellaneous Hardware				
14VI	Wire & Cable				
15VI	Labor				
END OF SECTION					

Appendices

The Appendices, which includes all of the items listed below, can be found on the City's website at the following link: <https://www.brentwoodca.gov/government/projects-bids-rfps>

Appendix A Plans

REFERENCE ONLY