UNIVERSITY OF MARYLAND BALTIMORE COUNTY

REQUEST FOR PROPOSAL # BC-20612-Q

FOR

UMBC’S BW TECHNOLOGY CENTER
FIRE ALARM SYSTEM RENOVATION

ISSUE DATE: APRIL 1, 2009

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<td>Issue Date</td>
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<td>Wednesday, April 1, 2009</td>
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<td>Pre-Proposal Meeting</td>
<td>10:00 am</td>
<td>Thursday, April 16, 2009</td>
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<td>Last Day for Questions</td>
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WARNING: Prospective bidders who have received this document from a source other than the Issuing Office should immediately contact the Issuing Office and provide their name and mailing address in order that amendments to the Request for Proposal or other communications can be sent to them. Any Prospective Proposer who fails to notify the Issuing Office with this information assumes complete responsibility in the event that they do not receive communications from the Issuing Office prior to the closing date.
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REQUEST FOR PROPOSAL
FOR
FIRE ALARM SYSTEM RENOVATION

SECTION 1 - GENERAL INFORMATION

1.1 **Objective.** The University of Maryland Baltimore County (UMBC or the University) is soliciting proposals for removing the existing fire alarm system at the BW Technology Center; and providing and installing a new fire alarm system and all the necessary work to complete the project, such as, but not limited to cutting, patching and painting.

1.2 **Background.** UMBC is a public research university that attracts high-achieving students to its undergraduate and graduate programs in the liberal arts, sciences, and engineering. Founded in 1966, UMBC is classified by the Carnegie Foundation as Research Extensive and boasts an impressive array of scholarly and research awards. The campus’ externally funded research portfolio, now in excess of $87 million, has more than doubled over the past 5 years. With a remarkable collection of cutting-edge research laboratories, research centers and institutes, and excellent teaching and research facilities, UMBC is well positioned to continue its growth as a leading research university.

UMBC’s 9,464 undergraduates and 2,577 graduate students come from 45 states and 90 foreign countries. Its faculty is deeply committed to providing a distinctive and rich undergraduate experience including opportunities for faculty guided research. At the doctoral level, last year UMBC awarded 75 Ph.D.s in 17 disciplines. A campus community recognized for its cultural diversity, UMBC is home to the nationally known Meyerhoff Scholarship Program.

The 500-acre campus near Baltimore-Washington International Airport has a budget of approximately $331 million and has a full-time instructional faculty of about 636 members. UMBC is one of eleven institutions in the University System of Maryland and is accredited by the Middle States Association of Colleges and Secondary Schools.

Additional information about UMBC can be found at the University’s web site, at [http://www.umbc.edu](http://www.umbc.edu).

1.3 **Issuing Office/Point of Contact.** The sole point of contact at UMBC for purposes of this Request for Proposal (RFP) is the Procurement Officer:

    Sharon Quinn  
    University of Maryland Baltimore County  
    Department of Procurement  
    Room 301, Administration Building  
    1000 Hilltop Circle  
    Baltimore, MD  21250  
    Voice: (410)-455-2540  
    FAX: (410) 455-1009  
    E-mail: squinn@umbc.edu
1.4 **Proposer Contacts:**

To insure that RFP documentation and subsequent information (i.e., addenda, clarifications, etc.) is directed to the appropriate person(s) within the Proposer’s firm, each Proposer who receives a copy of this solicitation or becomes aware of the solicitation by other means and is interested in participating is required to contact the Issuing Office immediately and provide the following information:

- Name of primary contact (to whom information should be directed)
- Mailing address of primary contact
- Telephone number of primary contact
- Fax number of primary contact
- E-mail address of primary contact

1.5 **Pre-Proposal Conference.**

There will be a Pre-Proposal Conference held in conjunction with the RFP. The conference will be held on **Thursday, April 16, 2009 at 10:00 a.m. in the Conference Room at the BW Technology Center** (refer to UMBC’s website: [www.umbc.edu](http://www.umbc.edu) for the Campus Map). While attendance at the Pre-Proposal Conference is not mandatory, information presented may be very informative; therefore, all interested Proposers are encouraged to attend in order to be able to better prepare acceptable proposals. If your firm plans to send representatives, please call the Issuing Office by **Monday, April 13, 2009**.

Appropriate auxiliary aids and services for qualified individuals with disabilities will be provided upon request. Please call Sharon Quinn at 410-455-2540 with specific requests at least five (5) business days prior to the conference.

1.6 **Interpretation of RFP:**

If the Proposer finds any perceived conflict, error, omission or discrepancy on or between the specifications, attachments, or any of the Contract documents, the Proposer may submit a written request to the Issuing Office for an interpretation or clarification before the deadline for questions and inquiries.

Any interpretation of the Contract documents made by any party other than the Procurement Officer, or in any manner other than a written response, is not binding and the Proposer may not rely upon any such interpretation. The Proposer may not, at any time after the execution of the Contract, be compensated for a claim alleging insufficient data, incomplete Contract documents, or incorrectly assumed conditions regarding the nature or character of the work, if no request for interpretation was made by the Proposer prior to the deadline for questions.

1.7 **Inquiries.** Prospective Proposers may contact the University only at meetings with the Procurement Officer or in written communications with the Procurement Officer. Inquiries may be submitted in writing, faxed or emailed to the Procurement Officer up to **Tuesday, May 5, 2009 by 5:00 pm**, the last day for questions.

Any additional information not addressed in this RFP in response to an inquiry received by the Procurement Officer will be answered in writing as an addendum to the RFP. Copies of the addendum will be forwarded to each known recipient of the RFP and will be posted to the eBid Board at [www.umbc.edu/adminaffairs/procurement/EBidB.shtml](http://www.umbc.edu/adminaffairs/procurement/EBidB.shtml). It is the responsibility of the vendor to check the website frequently until the opening date for addendums, amendments and changes. Reasonable efforts will be
made to avoid the identification of Proposers in any addenda. For purposes of this RFP, there shall be no other communication between UMBC and Proposers other than as described in this paragraph.

1.8 **Addenda Acknowledgment.** Prospective Proposers responding to this RFP must acknowledge the receipt of any, and all, addenda, amendments and/or changes issued. RECEIPT OF THE ADDENDA, AMENDMENT AND/OR CHANGE ISSUED MUST BE ACKNOWLEDGED IN WRITING BY PROSPECTIVE PROPOSERS AND EACH INCLUDED IN THE TECHNICAL PROPOSAL.

1.9 **Closing Date.** Sealed Technical Proposals must be received no later than **2:00 pm on Thursday, May 14, 2009** at the following:

University of Maryland Baltimore County  
Department of Procurement  
1000 Hilltop Circle, Administration Building 301  
Baltimore, MD 21250  
Attention: Sharon Quinn  

NOTE: All UMBC mail goes through the UMBC mailroom, so please leave sufficient time for the mail distribution. A mailed (via US Post Office) proposal is not considered "received" until the document reaches the above room at UMBC. Proposals delivered to the campus central mail facility or to locations other than Room 301 in the UMBC Administration Building will not be considered "received" by UMBC until they arrive at Room 301 in the Administration Building and are clocked in. The University will not waive delay in delivery resulting from the need to transport a proposal from another campus location to Room 301, or error or delay on the part of the carrier.

Proposals received after the established closing date and time cannot be considered. Proposers are advised that a proposal is not considered "received" until it is delivered to the specific location; that is, a proposal must be received in Room 301 by the due date in order to be considered. Proposers must allow sufficient time, therefore, to insure that their proposal is "received" in accordance with this paragraph.

1.10 **Receipt of Proposals.** Proposals may not be opened publicly; nor, can the identity of persons (individuals or entities) submitting proposals (“Proposers”) be disclosed prior to actual contract award. However, a register of proposals, identifying each Proposer, shall be prepared and open to public inspection after the contract award. Proposals shall not be open to public inspection until after the contract award, and then shall be made public only if requested under the provisions of the Access to Public Records Act, State Government Article, Title 10, Subtitle 6 of the Annotated Code of Maryland.

1.11 **Duration of Proposals.** Proposals submitted in response to this solicitation are irrevocable for 120 days following the closing date. This period may be extended by mutual agreement between the Proposer and the University.

1.12 **Rejection or Acceptance of Proposals.** UMBC reserves the right to accept or reject any and all proposals, in whole or in part, received as a result of this RFP; or to negotiate with any Proposer, in any manner necessary, to serve the best interest of UMBC and the State of Maryland.

1.13 **Cancellation of the RFP.** UMBC may cancel this RFP, in whole or in part, at any time prior to contract award.

1.14 **Incurred Expenses.** Neither UMBC nor the State of Maryland is responsible for any expenses that Proposers may incur in preparing and submitting proposals or in making oral presentations of their proposals, if required.
1.15 **Minority Business Enterprises.** Minority Business Enterprise (“MBE”) involvement will be considered in the analysis of the technical portion of this RFP. It is the intent of the University to maximize minority business opportunities. Certified Minority Business Enterprise firms and non-minority business enterprise firms, who utilize certified MBE vendors, as subcontractors are eligible to receive additional consideration during the technical evaluation process for MBE participation. A **minimum** MBE subcontract participation goal of 25% of the total amount of the contract has been established for this procurement. This goal applies to all firms regardless of whether the prime contractor is or is not a MBE firm. Proposers failing to comply with this requirement will be deemed non-responsive. All proposals must include, in the technical proposal, a statement as to the expected level of MBE participation (prime contractor and subcontractor) that will be involved in this contract. Proposers may propose percentages that exceed the minimum stated. Consideration will be given on the basis of a percentage/value of MBE contract participation. Weighted guidelines may be used allowing additional consideration for the highest level of MBE participation. Lesser percentages of participation will be scaled down on a proportionate basis. The enclosed “**Certified MBE Utilization and Fair Solicitation**” form along with the “**MBE Participation Schedule**” (Attachments A and B found in Appendix A) must be completed and returned with the Technical Proposal certifying the Proposer’s intent to provide the requirement MBE participation.

In order to be deemed responsive, Offeror must include in the Technical Proposal submittal the following documents: (1) a completed Certified MBE Utilization and Fair Solicitation Affidavit (Attached) whereby the Offeror acknowledges the certified MBE participation goal or requests a waiver, commits to make a good faith effort to achieve the goal, and affirms that MBE subcontractors were treated fairly in the solicitation process; and (2) a completed MBE Participation Schedule (Attached) whereby the Offeror sets forth the expected degree of Minority Business Enterprise participation as stated in the solicitation, by identifying the specific commitment of certified MBEs at the time of the submission, and specifies the price and/or the percentage of contract value associated with each MBE subcontractor identified on the MBE Participation Schedule. **Failure to comply with this requirement will result in the Proposal being deemed non-responsive and rejected from consideration.**

Within ten (10) days of notification of award, the successful Proposer must provide: (1) an Outreach Efforts Compliance Statement (Attachment C found in Appendix A); and (2) an MBE Subcontractor Project Participation Statement (Attachment D found in Appendix A).

1.16 **Assistance in Drafting Specifications.** Under Article 40A, § 3-110, Annotated Code of Maryland, a firm who employs an individual who assists a state agency in drafting specifications for an invitation for bid and/or a request for proposal for a procurement may not submit a bid or proposal for the procurement or assist or represent another person, directly or indirectly, who is submitting a bid or proposal for that procurement. If a firm has any questions regarding the applicability of this provision of the State Ethics Law, contact the State Ethics Commission, Toll Free phone number 877-669-6085 or see the website [www.ethics.gov.state.md.us](http://www.ethics.gov.state.md.us).

1.17 **Subcontractors.** The selected Proposer (“Contractor”) shall be solely responsible for all services as required by this RFP. The use of a subcontractor(s) does not relieve the Contractor of liability. UMBC will consider proposals that reflect primary and secondary service providers, or prime/subcontractor relationship. However, there should be proof of ability of the primary to manage a subcontractor and successfully coordinate the delivery of quality service and support in a timely manner.
1.18 **Contract Agreement.** The contract to be entered into as a result of this RFP (the “Contract”) shall be by and between the Proposer as contractor and UMBC in the form provided in Appendix B of this RFP. By submitting an offer, the Proposer warrants that they have reviewed the contract in Appendix B and will execute this contract upon request by UMBC. Proposers must understand and acknowledge that UMBC, as an agency of the State of Maryland, cannot indemnify the Contractor, submit to binding arbitration, or agree to pay the Contractor’s attorney’s fee.

The Contract to be entered into as a result of this RFP (the “Contract”) shall be by and between the Proposer as contractor and UMBC in the form provided in Appendix B of this RFP. By submitting an offer, the Proposer warrants that they have reviewed the contract in Appendix B and will execute this contract upon request by UMBC. Proposers must understand and acknowledge that UMBC, as an agency of the State of Maryland, cannot indemnify the Contractor, submit to binding arbitration, or agree to pay the Contractor’s attorney’s fee.

Other University System of Maryland institutions not specifically named in this solicitation document may participate in the contract resulting from this solicitation under the same pricing, terms and conditions of the awarded contract.

1.19 **Order of Precedence:**

The contract between the parties will be embodied in the contract documents, which will consist of those items named in 1.18 above, listed in their order of precedence. Modifications to the Order of Precedence of those items will not be accepted in order to protect the University against obscure, unrecognized conflicts between the solicitation and a Proposer’s proposal. In the event of a conflict, the terms of the University Contract shall prevail.

1.20 **Term of Contract.** Any contract arising from this RFP action shall commence on the date the contract is executed on behalf of UMBC. The term of the contract will be for the scope of work as defined in Section 2 of the solicitation documents and is anticipated to be for a period of one (1) year starting on June 22, 2009 and ending on June 21, 2010. In addition to the two (2) Warranty years provided under this contract, there are four (4) additional one-year renewal terms and the sole option of the University for the maintenance of this system.

1.21 **Acceptance of Terms and Conditions.** By submitting a proposal in response to this RFP, a Proposer shall be deemed to have accepted all the terms, conditions, and requirements set forth in this RFP.

1.22 **Public Information Act:**

Proposers should give specific attention to the identification of those portions of their bids/proposals that they deem to be confidential, proprietary information or trade secrets and provide justification why such materials, upon request, should not be disclosed by the University under the Access to Public Records Act, State Government Article, Title 10, Subtitle 6, Annotated Code of Maryland. Bidders/Proposers must clearly indicate each and every section that is deemed to be confidential, proprietary, or a trade secret. A statement in a header or footer on each page or contained in a preface or opening paragraph indicating that the entire bid or each page is deemed confidential is not adequate. Bidders/Proposers must clearly indicate each and every section that is deemed to be confidential, proprietary, or a trade secret. By submitting a response to this solicitation, the Proposer consents to release of all bid documents with the exception of those specific provisions that are noted confidential, proprietary or a trade secret as defined and set forth in the Access to Public Records Act, State Government Article, Title 10, Subtitle 6, Annotated Code of Maryland.
Any statements requesting to keep portions of the proposal confidential must be included in the cover letter clearly setting forth those specific portions. A mere statement in the preface or notation on each page that the entire proposal is deemed confidential is insufficient for meeting the intent of this requirement nor will Proposers be permitted after the due date and time to designate areas as confidential that were not so noted prior to submission of proposals.

1.23 **Payments by Electronic Funds Transfer.** By submitting a response to this solicitation, the Offeror agrees to accept payments by electronic funds transfer unless the State Comptroller’s Office grants an exemption. The selected Offeror shall register using the COT/GAD X-10 Vendor Electronic Funds (“EFT”) Registration Request Form. Any request for exemption shall be submitted to the State Comptroller’s Office for approval at the address specified on the COT/GAD X-10 form and shall include the business identification information as stated on the form and include the reason for the exemption. The COT/GAD X-10 form can be downloaded at: http://compnet.comp.state.md.us/gad/pdf/GADX-10.pdf

1.24 **Payment.** The State of Maryland usually provides payments on a net 30-day basis for UMBC approved invoices. As a state agency, UMBC is normally prohibited from paying for products or services in advance. Payment provisions shall be in arrears, with late payment and interest calculated as provided by Maryland law. For purposes of determining whether a prompt-payment discount, if applicable, may be taken by UMBC, the starting date of such reckoning period shall be the later of the date of a properly executed invoice or the date of completion of service and/or delivery of product.

1.25 **Access to Contractor Records for Quality Assurance and Auditing Purposes.** The Contractor and its principal subcontractors must provide access to pertinent records by University personnel or its representatives (including internal auditors, external auditors’ representatives, or agents) to provide quality assurance and auditing.

1.25 **Procurement Regulations.** This solicitation shall be conducted in accordance with University System of Maryland Procurement Policies and Procedures; the procurement method is Competitive Sealed Proposals. The text of the Policies and Procedures is available at www.USMD.edu/Leadership/BoardofRegents/Bylaws/SectionVIII/.

END OF SECTION 1
SECTION 2
UMBC REQUIREMENTS/SCOPE OF SERVICES

A. PURPOSE OF THE ENGAGEMENT: UMBC is seeking a firm to remove the existing fire alarm system at the BW Technology Center; and provide and install a new fire alarm system and all the necessary work to complete the project, such as, but not limited to cutting, patching and painting.

B. SCOPE OF SERVICES: All work is to be performed in accordance with the specifications and drawings provided in Appendix E of the RFP Document.

END OF SECTION 2
SECTION 3
PROPOSALS AND FORMS

INTRODUCTION/ OVERVIEW /PROCUREMENT PHASES
ARTICLE 1

SUMMARY OF PROPOSAL SUBMITTALS/PRESENTATIONS: Responses to the RFP solicitation #BC-20612-Q are to consist of the following:

1. **TWO VOLUME SUBMITTAL**
   The selection procedure for procurement of this contract requires that a review of the Technical Proposal of the contractors is to be conducted by an Evaluation and Selection Committee prior to the review of the Price Proposal. The Technical Proposal form(s) (found in Appendix A) shall be filled out in ink or typed. Any erasures and/or alterations shall be initialed in ink by the signer.

2. **Technical Proposal Submittal** (see Article 2 of this Section 3 for detailed information): All Proposers will be required to submit one (1) original and six (6) copies [for a total of seven (7) sets] of the Proposal, which are due by Thursday, May 14, 2009, no later than 2:00 p.m. to the Issuing Office. (Refer to Section 1, Item 1.3 for more details.) UMBC reserves the right to photocopy additional copies of any or all parts of the proposal for the evaluation and selection process.

3. **Price Proposal:** Price Proposals are not requested at the time of submission of the Technical Proposal. Rather, Price Proposals will be requested only from those Proposers who are short-listed after the Technical Evaluation Phase. A sample Price Proposal form is included in Appendix C. The due date and time for Price Proposals is anticipated to be June 18, 2009 at 2:00 p.m. (See Article 3 of Section 3 for further details).

END OF SECTION 3, ARTICLE 1
SECTION 3
PROPOSALS, EVALUATION AND FORMS

TECHNICAL PROPOSAL REQUIREMENTS

ARTICLE 2

A. TECHNICAL PROPOSAL: The Technical Proposal must be submitted as a single submittal in a sealed container. The container shall have the Proposer's name, the RFP Title and RFP number prominently displayed, together with the word, "PROPOSAL", and shall be delivered on, or before, Thursday, May 14, 2009, on or before 2:00 p.m., to the UMBC's Procurement Services at the address noted in “Section 1 of the RFP as "The Issuing Office". One (1) original and six (6) copies [for a total of seven (7) sets are to be provided.] The original is to be clearly labeled.

This volume should be prepared in a clear and precise manner. All appropriate points of the Request For Proposal (RFP) solicitation must be addressed. The criteria for this volume are listed in Section C, below.

B. TECHNICAL PROPOSAL REQUIREMENTS:

1. Transmittal Letter

A transmittal letter prepared on the Proposer's business stationery must accompany the original and all copies of each required volume. The purpose of this letter is to transmit the proposal; therefore, it should be brief. The letter must be signed by an individual who is authorized to bind his/her firm to all statements, including services and prices, contained in the proposal and any RFP addenda. The letter shall include the Name and Address of Proposer, as well as, the person(s) [include a telephone number, telefax number, and e-mail address] responsible for responding to any inquiries or other correspondence related to this RFP or the Proposer's proposal. The letter must also provide detailed information itemizing and explaining any exception to the terms, conditions, and requirements set forth in this RFP.

2. Proposal Criteria

Clear, concise, yet detailed responses to Item C below are to be provided in the proposal.

Note: If the Proposer has multiple firm locations, UMBC is interested in the capabilities and experience of the office that will primarily provide the service to UMBC. Unless otherwise stated below, all requested information about the Proposer is required to be specifically limited to the local office that will serve UMBC’s needs.

3. Signing of Forms

The proposals, if submitted by an individual, shall be signed by the individual; if submitted by a partnership, they shall be signed by such member or members of the partnership as have authority to bind the partnership; if submitted by a corporation, they shall be signed by an officer, and attested by the corporate secretary or an assistant corporate secretary. If not signed by an officer there must be attached a copy of that portion of the by-laws or a copy of a board resolution, duly certified by the corporate secretary, showing the authority of the person so signing on behalf of the corporation.
4. **Proposal Affidavit**

University Procurement policies require that each proposal submitted by a firm include a signed Proposal Affidavit. A copy of this Proposal Affidavit is included in **Appendix A** of this RFP. Proposers must complete, sign and return this affidavit.

5. **Insurance**

Provide a copy of a Certificate of Insurance verifying your firm's coverage for Commercial General Liability, Excess Liability, Workmen's Compensation, and Automobile Liability, with limits of not less than $1,000,000 for each person and $5,000,000 for each accident.

6. **Acknowledgement Of Receipt Of Addenda Form:**

If any addenda to the solicitation documents are issued prior to the due date and time for proposals, this form (found in **Appendix A**) is to be completed, signed, and included in the Proposer's Technical Proposal.

C. **TECHNICAL PROPOSAL CRITERIA**

The following information must be furnished in the firm's Technical Proposal submittal. Failure to include any of the items listed below may disqualify a firm's response. Criteria are listed in order of importance. Proposer should describe in detail and provide evidence supporting the qualifications below.

All Proposers are to compile their proposals in the order listed below and in response to this RFP. Tabs or dividers are requested in the proposal to separate each criteria response and pages are to be numbered.

1. **Statement of Approach to the Contract/System/Installation:** Provide a narrative explaining “how” your firm will execute performance of this contract in accordance with the specifications and drawings in **Appendix E**. Items to be included, but not limited to, are:

   1.1 All mandatories are to be addressed and acknowledged; if there are any exceptions to the mandatories, they are to be noted here.
   1.2 A detailed description of the System (including cut sheets if appropriate);
   1.3 A detailed description of the Installation;
   1.4 All personnel are to be identified (System Designer, System technician, System Installer, etc);
   1.5 A List of all sub-contractors; and
   1.6 A proposed “Work Schedule” and “Project Timetable”. (Refer to **Appendix E**, Section 283111, Item-1.8 “Submittals” – D “Work Schedule” for more details of the information to be provided).

2. **Experience/References:** Complete the Experience/Reference Form (found in **Appendix A**) on three (3) contracts of similar size and scope over the last 5 years. Contracts may be from both private and public sector clients.

   The contact person on each Experience/Reference Form will serve as a reference for the Proposer’s firm. Please insure that the information is accurate to ensure that the references are current and reachable. Such references should be able to speak to your firm’s performance on contracts similar to UMBC.
UMBC reserves the right to verify all information given if it so chooses, as well as, to check any other sources available including any person or persons associated with the references. The University also reserves the right to request additional references or contact any known firm associated with the Proposer, as well as, itself even if not provided as a reference by the Proposer. References will be held in the strictest of confidence.

3. **Key Personnel:**

3.1 **Project Manager:** Submit the resume for the person who will be the point of contact for the University. With the resume, three (3) references of other clients are to be included. The notes above on Experience/References also apply to the references on this person(s).

4. **Company Profile/Background Information:**

4.1 **Company Profile:** Complete the Company Profile Form found in Appendix A which includes a description of your company and its history, the management and ownership structure.

END OF SECTION 3, ARTICLE 2
SECTION 3
PROPOSALS, EVALUATION, AND FORMS

ARTICLE 3
PRICE PROPOSAL

1. OVERVIEW:

Price Proposals are not requested at the time of submission of the Technical Proposal. Rather, Price Proposals will be requested only from those Proposers who are short-listed after the Technical Evaluation Phase. An addendum will be issued at the time in which Price Proposals are requested to confirm the due date and time.

2. PRICE PROPOSAL PHASE: The Price Proposal must be submitted in a sealed container. The container shall have the Proposer's name, the contract name and the RFP number prominently displayed, together with the words "PRICE PROPOSAL".

2.1 Price Proposal Form: A sample Price Proposal form is included in Appendix C for information only. At the time requested, the final Price Proposal Form will be provided to the applicable proposers.

The Price Proposal shall be filled out completely in ink or typed. Any erasures and/or alterations to the Proposer's pricing shall be initialed in ink by the signer. Please note, however, that no changes, alterations or additions to the Price Proposal Form are permitted.

2.3 Price Proposal Due Date/Time: The due date and time for price proposals is anticipated to be Thursday, June 18, 2009 at 2:00 p.m. Price Proposals will be opened privately.

END OF SECTION 3, ARTICLE 3
SECTION 4
EVALUATIONS

EVALUATION AND SELECTION PROCEDURES

1. Evaluation and Selection Committee

All contractors’ proposals received by the closing deadline will be reviewed. The Procurement Officer shall establish an Evaluation and Selection Committee to review and evaluate the proposals. The Committee may request additional technical assistance from any source.

2. Evaluation Procedure

2.1 Qualifying Proposals

The Procurement Officer shall first review each proposal for compliance with the mandatory requirements of this RFP. Failure to comply with any mandatory requirement will normally disqualify a contractor’s proposal. The University reserves the right to waive a mandatory requirement when it is in its best interest to do so. The contractor must assume responsibility for addressing all necessary technical and operational issues in meeting the objectives of the RFP. Each section of the proposal will be evaluated according to the criteria listed below. Proposals cannot be modified, supplemented, cured, or changed in any way after the due date and time for technical proposals, unless specifically requested by the University.

The intent of this RFP is to provide Contractors an opportunity to present their qualifications, experience, and approach to providing the scope of services in relation to the needs of UMBC. The manner in which the proposing team presents their qualifications will be regarded as an indication of how well the Proposer’s philosophy, approach, organizational culture, working style and communications style fit with the University’s. Submittals that concisely present the information requested in the order and the manner requested will be considered more favorably than a submittal from a Proposer of commensurate qualifications that displays a lack of organization, conciseness or attention to detail.

2.2 Technical Evaluation

After compliance with the mandatory requirements in this RFP has been determined, the Committee shall conduct its evaluation of the technical merit of the proposals in accordance with the Evaluation Criteria. Proposals are evaluated to determine which proposal is most advantageous to the University. The process involves applying the evaluation criteria contained in the RFP, comparing the proposals to each other, and ranking the proposals from most to least advantageous. If used in the evaluation process, numerical point scores will be useful guides but will not be the sole factor in determining the award. The decision for the award will not be made solely by the raw scores themselves, but rather by the strengths, weaknesses, advantages, and deficiencies that the scores represent.

The criteria that will be used by the committee for the technical evaluation of the proposals for this specific procurement are listed below. Each committee member will evaluate the proposals on each major criterion. Factors are listed in order of importance.
Minor irregularities in proposals, which are immaterial or inconsequential in nature, may be waived wherever it is determined to be in the University’s best interest.

2.2.1 Technical Evaluation

An evaluation of the Technical Proposals will be conducted by the University’s Evaluation and Selection Committee. The order of importance of the technical criteria is as follows:

1) Approach to the Contract/System/Installation
2) Experience/References
3) Key Personnel
4) Company Profile/Background Information

Firms will be ranked. Those proposals not considered "to be reasonably susceptible of being selected for award" may be rejected after evaluation of the Technical Proposals and will not progress further in the procurement. Only those firms who achieve the minimum technical score of 75% or better will advance in the procurement process. Upon completion of the technical evaluation, all proposers will be notified as to the results of the technical evaluation of his/her firm’s technical proposal.

2.2.3 Final Technical Evaluation:

The University will establish a ranking of technical proposals from highest to lowest. If a numerical point scoring system is utilized, scores will be normalized, that is the highest ranked proposal will receive 100% of the available technical score with subsequently lower ranked proposals receiving proportionately lower scores.

3. Price Proposal Phase:

Upon completion of the Technical Evaluation Phase, only those firms whose technical proposals achieve the minimum technical score of 75% or better will be requested via an addendum to submit a Price Proposal. The due date and time for price proposals is anticipated to be Thursday, June 18, 2009, at 2:00 p.m.

3.3.1 Price Evaluation

Price Proposals will not be opened publicly. Price Proposals will be evaluated based on the best price to the University.

3.3.2 Final Price Evaluation:

The University will establish a financial ranking of the proposals from lowest to highest total offers. If a numerical rating is utilized, the lowest evaluated total offer will receive 100% of the points awarded to the financial portion with subsequently higher quotes receiving proportionally lower points.

4. Discussions. The University reserves the right to recommend a Proposer for contract award based upon the Proposer's technical proposal and price proposal without further discussions. However, should the Committee find that further discussion would benefit the University, the Committee shall recommend such discussions to the Procurement Officer. Should the Procurement Officer determine that further discussion would be in the best interest of the University, the Procurement Officer shall establish procedures and schedules for conducting discussions and will notify responsible Proposer(s).
5. **Best and Final Offers.** When in the best interest of the University, the Committee may recommend and the Procurement Officer may permit qualified Proposers to revise their proposals by submitting "Best and Final" offers either during the Technical Phase and/or the Price Proposal Phase of this procurement.

6. **Final Ranking and Selection**

Following evaluation of the technical proposals and the price proposals, the Evaluation and Selection Committee will make an initial overall ranking of the proposals and recommend to the Procurement Officer the award of the contract to the responsible Offeror(s) whose proposal(s) is/are determined to be the most advantageous to the University based on the results of the final technical and financial evaluation in accordance with the University System of Maryland Procurement Policies and Procedures. **Technical merit will be given a greater weight than cost in the final ranking.**

Award may be made to the proposal with a higher technical ranking even if its cost proposal is not the lowest. The decision of the award of the contract will be made at the discretion of the Procurement Officer and will depend on the facts and circumstances of the procurement. The Procurement Officer retains the discretion to examine all factors to determine the award of the contract. The goal is to contract with the Contractor that provides the best overall value to the University.

The University may select one or more Contractors to further engage in negotiations, including terms of a contract and other issues to be incorporated into the contract. The University reserves the right to make an award with or without negotiations.

END OF SECTION 4
SECTION 5
TERMS AND CONDITIONS OF THE PROPOSAL

5.1 Proposer's Responsibility. Proposers are advised to read the requirements very carefully to ensure that each requirement is understood. If in doubt, develop and submit applicable questions, in writing to the contact at the Issuing Office per “Section 1” of the RFP. A Proposer's misinterpretation of requirements shall not relieve the Proposer of responsibility to accurately address the requirements of the RFP or to perform the contract, if awarded.

5.2 General Requirement. Proposals must be made in the official name of the firm or individual under which business is conducted, showing the official business address, state in which it is incorporated or organized (if Proposer is not an individual) and must be signed by a duly authorized person. Proposals must be prepared in writing, simply and economically, providing a straightforward, concise description of the Proposer's proposal for meeting the required specifications of this procurement. Proposers must paginate each proposal volume and are requested to provide tabs to separate responses to the technical criteria.

5.3 Confidentiality. An Proposer should give specific attention to the identification of those portions of the proposal that the Proposer deems to be confidential, proprietary information or trade secrets and provide any justification why such materials, upon request, should not be disclosed by the State under the Access to Public Records Act, State Government Article, Title 10, Subtitle 6, Annotated Code of Maryland. Proposers are advised that, upon request for this information from a third party, the Procurement Officer is required to make an independent determination as to whether the information may or may not be disclosed to the requesting party. That decision will take into consideration the Proposer's position regarding its proposal. A blanket statement by an Proposer that its entire proposal is confidential or proprietary will not be upheld.

5.4 Interviews/Oral Presentation. Vendors who submit proposals may be required to make individual presentations to the University representatives.

5.5 Evaluation Of Proposals. Contract Award will be made to the responsible Proposer(s) whose proposal best meets the needs of the University as determined by the Procurement Officer. All proposals will be evaluated by an University evaluation committee. After considering the factors set forth in this RFP, the committee will make recommendations for the award of a contract to the vendor(s) whose proposal(s) is/are determined to be the most advantageous to the University. (See Section 4 for further information).

5.6 Proposal Affidavit And Certifications. State procurement regulations require that proposals contain certifications regarding non-collusion, debarment, cost and price, etc.. The affidavit form, which should be completed by all respondents and returned with their respective responses, is included as Appendix A of the RFP.

5.7 Economy Of Preparation. Proposals should be prepared simply and economically, providing a straightforward, concise description of the vendor's offer to meet the requirements of the RFP.

5.8 Multiple Proposals. Vendors may not submit more than one proposal.
5.9 **Telegraphic/Facsimile Proposal Modifications.** Vendors may modify their proposals by telegraphic or facsimile communication at any time prior to the due date and time set to receive proposals provided such communication is received by the State issuing agency prior to such time and, provided further, the State agency is satisfied that a written confirmation of the modification with the signature of the Proposer was mailed prior to the time and date set to receive proposals. The communication should not reveal the proposal price but should provide the addition or subtraction or other modification so that the final prices, percent or terms will not be known to the State agency until the sealed proposal is opened. If written confirmation is not received within two (2) days from the scheduled proposal opening time, no consideration will be given to the modification communication. No telephone, telegraphic, or facsimile price proposals will be accepted.

5.10 **Contractor Responsibilities.** The University of Maryland Baltimore County shall enter into contractual agreement with the selected offering vendor(s) only. The selected vendor(s) shall be responsible for all products and/or services required by this RFP. Subcontractors, if any, shall be identified and a complete description of their role relative to the proposal shall be included. UMBC's intent is not to direct the use of any particular vendor, however, the vendor will not contract with any such proposed person or entity to whom University of Maryland Baltimore County has a reasonable objection. Notification of such objection will be made by UMBC within 15 days of contract. The vendor shall be fully responsible for the acts and omissions of its subcontractors and of persons directly or indirectly employed by them.

5.11 **Public Information Act.** Proposers must specifically identify those portions of their proposals, if any, which they deem to contain confidential, proprietary information or trade secrets and must provide justification why such material should not, upon request, be disclosed by the State under the Access to Public Records Act, State Government Article, Title 10, Sub-Title 6, of the Annotated Code of Maryland.

Vendors must clearly indicate each and every section that is deemed to be confidential, proprietary or a trade secret (it IS NOT sufficient to preface your proposal with a proprietary statement.). Failure to comply may result in rejection of your proposal.

5.12 **Arrearages.** By submitting a response to this solicitation, a vendor shall be deemed to represent that it is not in arrears in the payment of any obligation due and owing the State of Maryland, including the payment of taxes and employee benefits and that it shall not become so in arrears during the term of the contract if selected for contract award.

5.13 **Taxes.** University of Maryland Baltimore County is exempt from Federal Excise Taxes, Maryland Sales and Use Taxes, and the District of Columbia Sales Taxes and Transportation Taxes, except as noted in applicable sections of COMAR. Exemption Certificates shall be provided upon request. Where a Contractor is required to furnish and install material in the construction or improvement of real property in performance of a contract, Contractor shall pay the Maryland Sales tax and the exemption does not apply.

5.14 **RFP Response Materials.** All written materials submitted in response to this RFP become the property of UMBC and may be appended to any formal documentation, which would further define or expand the contractual relationship between UMBC and the successful vendor(s).
5.15 **Debriefing Of Unsuccessful Proposers.** A debriefing of an unsuccessful Proposer shall be conducted upon written request submitted to the Procurement Officer within 10 days after the Proposer knew or should have known its proposal was unsuccessful. Debriefings shall be conducted at the earliest feasible time.

The debriefing shall be limited to discussion of the unsuccessful Proposer's proposal only and shall NOT include discussion of a competing Proposer's proposal. The debriefing may include information on areas in which the unsuccessful proposer’s proposal was deemed weak or insufficient. The debriefing may NOT include discussion or dissemination of the thoughts, notes or ranking from an individual evaluation committee member. A summarization of the procurement officer’s rationale for the selection may be given.

5.16 **Maryland Public Ethics Law, Title 15.** The Maryland Public Ethics Law prohibits, among other things: State employees or officials (and in some cases, former employees) and businesses in which such an individual is employed or holds a financial interest from (i) submitting a bid or proposal, (ii) negotiating a contract, and (iii) entering into a contract with the governmental unit with which the individual is affiliated per the Maryland Code, State Government Article, SS 15-502.

If the bidder/Proposer has any questions concerning application of the State Ethics law to the bidder/Proposer's participation in this procurement, it is incumbent upon the bidder/Proposer to see advise from the State Ethics Commission; The Office of The Executive Director, State Ethics Commission, 9 State Circle, Suite 200, Annapolis, MD 21401. For questions regarding the applicability of this provision of the Public Ethics Law, contact the State Ethics Commission, toll free phone number 877-669-6085, or see the website [ethics.gov.state.md.us](http://ethics.gov.state.md.us).

The procurement officer may refer any issue raised by a bid or proposal to the State Ethics Commission. The procurement officer may require the bidder/Proposer to obtain advise from the State Ethics Commission and may reject a bid or proposal that would result in a violation of the Ethics law. The resulting contract is cancelable in the event of a violation of the Maryland Public Ethics Law by the vendor or any State of Maryland employee in connection with this procurement.

END OF SECTION 5
APPENDIX A

TECHNICAL PROPOSAL FORMS

Experience/Reference Form

Company Profile Form

Proposal Affidavit Form

Acknowledgement of Receipt of Addenda Form

MBE Forms:  Attachment A
Attachment B
Attachment C
Attachment D
APPENDIX A

UMBC BW TECHNOLOGY CENTER
FIRE ALARM SYSTEM RENOVATION
RFP-BC-20612-Q

EXPERIENCE / REFERENCE FORM

PROPOSER: _____________________________________________________________

The Proposer is to complete this form on three (3) contract references that he/she deems the most similar or relevant to the UMBC contract. References listed should demonstrate experience in the provision of services that are similar to the UMBC scope of services.

Company /Institution Name: _________________________________________________

Contact Name: __________________________ Contact Title: __________________________

Contact E-mail address: __________________________ Contact Phone #: __________________________

1. **Description of services performed:** Check all that apply; see space below to identify other services/features, if any.

   ___ Provided System Equipment  ___ System Testing
   ___ System Installation  ___ Emergency Service
   ___ Design Services  ___ Upgrade Service: Type: __________
   ___ System Maintenance  ___ Training

2. **Type of Environment:**

   ___ Academic  ___ Research  ___ Corporate  ___ Medical (Hospital)

   ___ Other: __________________________________________

3. **Contract Dollars:** $___________

4. **Date System was provided:** ______________________

5. **Similarities to UMBC Contract:** ______________________________________

   ______________________________________

   ______________________________________

   ______________________________________

END OF EXPERIENCE/REFERENCE FORM
APPENDIX A
UMBC BW TECHNOLOGY CENTER
FIRE ALARM SYSTEM RENOVATION – RFP-BC-20612-Q

COMPANY PROFILE FORM
Page 1 of 2

COMPANY NAME: ____________________________________________________________

DATE OF INCORPORATION: ___________ STATE OF INCORPORATION: _______

# OF YEARS IN BUSINESS: _______________ NUMBER OF EMPLOYEES: _________

OTHER OR FORMER NAMES UNDER WHICH YOUR ORGANIZATION HAS OPERATED:
_______________________________________________________________________________

NAMES OF PRINCIPAL(S) AND TITLE(S): _________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

HEADQUARTERS LOCATION: __________________________________________________

LOCATION OF OFFICE THAT WILL PROVIDE SERVICES TO UMBC AND NUMBER OF
EMPLOYEES: __________________________________________________________________

TYPE(S) OF WORK PERFORMED AND SERVICES PROVIDED:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

AVERAGE ANNUAL SALES: $_________________________
APPENDIX A

UMBC BW TECHNOLOGY CENTER
FIRE ALARM SYSTEM RENOVATION – RFP-BC-20612-Q

COMPANY PROFILE FORM
Page 2 of 2

COMPANY NAME: ________________________________________________________________

BRIEF HISTORY OF THE COMPANY (if preferred, an attachment to this form can be provided):
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

OTHER COMMENTS/ADDITIONAL INFORMATION: _______________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

END OF COMPANY PROFILE FORM
A. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:

I am the (title) ____________________________ and the duly authorized representative of (business) ____________________________ and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

B. AFFIRMATION REGARDING BRIBERY CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business (as is defined in Section 16-101(b) of the State Finance and Procurement Article of the Annotated Code of Maryland), or any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies (as is defined in Section 16-101(f) of the State Finance and Procurement Article of the Annotated code of Maryland), has been convicted of, or has had probation before judgment imposed pursuant to Article 27, Section 641 of the Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows:

(indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

C. AFFIRMATION REGARDING OTHER CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies, has:

(a) Been convicted under state or federal statute of a criminal offense incident to obtaining or attempting to obtain, or performing a public or private contract, fraud, embezzlement, theft, forgery, falsification or destruction of records, or receiving stolen property;

(b) Been convicted of any criminal violation of a state or federal antitrust statute;
APPENDIX A (page 2 of 7)

(c) Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. §1961, et seq., or the Mail Fraud Act, 18 U.S.C. §1341 et seq., for acts arising out of the submission of bids or proposals for a public or private contract;

(d) Been convicted of a violation of the State Minority Business Enterprise Law, Section 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;

(e) Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in subsection (a), (b), (c), or (d), above;

(f) Been found civilly liable under a state or federal antitrust statutes for acts or omissions in connection with the submission of bids or proposals for a public or private contract;

(g) Admitted in writing or under oath, during the course of an official investigation or other proceedings, acts or omissions that would constitute grounds for conviction or liability under any law or statute described above, except as follows:

(indicate reasons why the affirmations cannot be given, and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of the person(s) involved and their current positions and responsibilities with the business, and the status of any debarment):

_____________________________________________________________________________

D. AFFIRMATION REGARDING DEBARMENT

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows:

(list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceedings, the name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension):

_____________________________________________________________________________
E. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES

I FURTHER AFFIRM THAT:

(1) The business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland; and

(2) The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows

(you must indicate the reasons why the affirmations cannot be given without qualification);

F. SUB-CONTRACT AFFIRMATION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, has knowingly entered into a contract with a public body under which a person debarred or suspended under Title 16 of the State Finance and Procurement Article of the Annotated code of Maryland will provide, directly or indirectly, supplies, services, architectural services, leases of real property, or construction.

G. AFFIRMATION REGARDING COLLUSION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, has:

(1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted;

(2) In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the bidder or Proposer or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted.

H. FINANCIAL DISCLOSURE AFFIRMATION
I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with the provisions of Section 13-221 of the State Finance and procurement Article of the Annotated Code of Maryland, which require that every business that enters into contracts, leases, or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate $100,000 or more shall, within 30 days of the time when the aggregate value of these contracts, leases or other agreements reaches $100,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

I. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

I am aware of and that the above business will comply with the provisions of Article 33, Sections 30-1 through 30-4 of the Annotated Code of Maryland, which require that every person that enters in contracts, leases, or other agreements with the State of Maryland, including it agencies or a political subdivision of the State, during a calendar year under which the person receives in the aggregate $10,000 or more shall, on or before February 1, of the following year, file with the Secretary of State of Maryland certain specified information to include disclosure of political contribution in excess of $100 to a candidate for in any primary or general election.

J. DRUG AND ALCOHOL FREE WORKPLACE

(Applicable to all contracts unless the contract is for a law enforcement agency and the agency head or the agency head's designee has determined that application of COMAR 21.11.08 and this certification would be inappropriate in connection with the law enforcement agency's undercover operations.)

I CERTIFY THAT:

(1) Terms defined in COMAR 21.11.08 shall have the same meaning when used in this certification.

(2) By submission of its bid or offer, the business, if other than an individual, certifies and agrees that, with respect to its employees to be employed under a contract resulting from this solicitation, the business shall:

(a) Maintain a workplace free of drug and alcohol abuse during the term of the contract;

(b) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of drugs, and the abuse of drugs or alcohol is prohibited in the business’ workplace and specifying the actions that will be taken against employees for violation of these prohibitions;

(c) Prohibit its employees from working under the influence of drugs and alcohol;

(d) Not hire or assign to work on the contract anyone whom the business knows, or in the exercise of due diligence should know, currently abuses drugs or alcohol and is not actively engaged in a bona fide drug or alcohol abuse assistance or rehabilitation program;
APPENDIX A (page 5 of 7)

(e) Promptly inform the appropriate law enforcement agency of every drug-related crime that occurs in its workplace if the business has observed the violation or otherwise has reliable information that a violation has occurred;

(f) Establish drug and alcohol abuse awareness programs to inform its employees about:

   (i) The dangers of drug and alcohol abuse in the workplace,

   (ii) The business' policy of maintaining a drug and alcohol free workplace,

   (iii) Any available drug and alcohol counseling, rehabilitation, and employee assistance programs; and

   (iv) The penalties that may be imposed upon employees who abuse drugs and alcohol in the workplace;

(g) Provide all employees engaged in the performance of the contract with a copy of the statement required by §J(2)(b), above;

(h) Notify its employees in the statement required by §J(2)(b), above, that as a condition of continued employment on the contract, the employee shall:

   (i) Abide by the terms of the statement, and

   (ii) Notify the employer of any criminal drug or alcohol abuse conviction for an offense occurring in the workplace not later than 5 days after a conviction;

   (i) Notify the procurement officer within 10 days after receiving notice under §J(h)(ii), above, or otherwise receiving actual notice of a conviction;

   (j) Within 30 days after receiving notice under §J(2)(h)(ii), above, or otherwise receiving actual notice of a conviction, impose either of the following sanctions or remedial measures on any employee who is convicted of a drug or alcohol abuse offense occurring in the workplace:

   (i) Take appropriate personnel action against an employee, up to and including termination, or

   (ii) Require an employee to satisfactorily participate in a bona fide drug or alcohol abuse assistance or rehabilitation program; and

   (k) Make a good faith effort to maintain a drug and alcohol free workplace through implementation of §J(2)(a)-(j), above.
(3) If the business is an individual, the individual shall certify and agree, as set forth in J(4), below, that the individual shall not engage in the unlawful manufacture, distribution, dispensing, possession, or use of drugs or the abuse of drugs or alcohol in the performance of the contract.

(4) I acknowledge and agree that:

(a) The award of contract is conditional upon compliance with COMAR 21.11.08 and this certification;

(b) The violation of the provisions of COMAR 21.11.08 or this certification shall be cause to suspend payments under, or terminate the contract for default under COMAR 21.07.01.11 or 21.07.03.15, as applicable; and

(c) The violation of the provisions of COMAR 21.11.08 or this certification in connection with the contract may, in the exercise of the discretion of the Board of Public Works, result in suspension and debarment of the business under COMAR 21.08.06.

K. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

I FURTHER AFFIRM THAT:

(1) The business named above is a (domestic___)(foreign___) [check one] corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and taxation, and that the name and address of its resident agent filed with the State Department of Assessments and Taxation is:

Name: _______________________________________________________________

Address:  ______________________________________________________________
(If not applicable, so state.)

(2) Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Employment Security Administration, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.
L. CONTINGENT FEES

I FURTHER AFFIRM THAT:

The business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for the business, to solicit or secure the Contract, and that the business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee or any other consideration contingent on the making of the Contract.

M. ACKNOWLEDGMENT

I ACKNOWLEDGE THAT this Affidavit is to be furnished to the Procurement Officer and may be distributed to units of: (1) the State of Maryland; (2) counties or other subdivisions of the State of Maryland; (3) other states; and (4) the federal government. I further acknowledge that this Affidavit is subject to applicable laws of the United States and the State of Maryland, both criminal and civil, and that nothing in this Affidavit or any contract resulting from submission of this bid or proposal shall be construed to supersede, amend, modify or waive, on behalf of the State of Maryland or any unit of the State of Maryland having jurisdiction, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland in respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the above business in respect to (1) this Affidavit, (2) the contract, and (3) other Affidavits comprising part of the contract.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: _______________  By: ________________________________________________
(Authorized Representative and Affiant)

END OF AFFIDAVIT FORM
ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA FORM

RFP NO.: BC-20612-Q

TECHNICAL PROPOSAL DUE DATE: THURSDAY, MAY 14, 2009 by 2:00 P.M.

RFP FOR: UMBC BW TECHNOLOGY CENTER FIRE ALARM SYSTEM RENOVATION

NAME OF PROPOSER: ____________________________________________________________

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

The undersigned, hereby acknowledges the receipt of the following addenda:

Addendum No. _____ dated ______
Addendum No. _____ dated ______
Addendum No. _____ dated ______
Addendum No. _____ dated ______
Addendum No. _____ dated ______

As stated in the RFP documents, this form is included in our Technical Proposal.

____________________________________
Signature

____________________________________
Name Printed

____________________________________
Title

____________________________________
Date

END OF FORM
Attachment A

CERTIFIED MBE UTILIZATION AND FAIR SOLICITATION AFFIDAVIT

This document must be included with the bid or offer. If the bidder or offeror fails to submit this form with the bid or offer as required, the Procurement Officer shall deem the bid non-responsive or shall determine that the offer is not reasonably susceptible of being selected for award.

In conjunction with the bid or offer submitted in response to Solicitation No. _____________, which includes Schedule MBE, I affirm the following:

1. I acknowledge the overall certified Minority Business Enterprise (MBE) participation goal of _______ percent and, if specified in the solicitation, sub goals of _______ percent for MBEs classified as African American-owned and _______ percent for MBEs classified as women-owned. I have made a good faith effort to achieve this goal.

OR

After having made a good faith effort to achieve the MBE participation goal, I conclude I am unable to achieve it. Instead, I intend to achieve MBE participation of _______ percent and request a waiver of the remainder of the goal. Within 10 business days of receiving notice that our firm is the apparent low bidder or the apparent awardee (competitive sealed proposal), I will submit a written waiver request that complies with COMAR 21.11.03.11. I acknowledge that the MBE subcontractors/suppliers listed in the MBE Participation Schedule will be used to accomplish the percentage of MBE participation that I intend to achieve.

2. I will identify the specific commitment of certified MBEs by completing and submitting an MBE Participation Schedule (Attachment B) with the bid or price proposal.

3. I understand that if I am notified that I am the apparent awardee, I must submit the following documentation within 10 working days of receiving notice of the potential award or from the date of conditional award (per COMAR 21.11.03.10), whichever is earlier.

(a) Outreach Efforts Compliance Statement (Attachment C)
(b) Subcontractor Project Participation Statement (Attachment D)
(c) MBE Waiver Request per COMAR 21.11.03.11 (if applicable)
(d) Any other documentation required by the Procurement Officer to ascertain bidder or offeror responsibility in connection with the certified MBE participation goal.

I acknowledge that if I fail to return each completed document within the required time, the Procurement Officer shall determine that I am non responsive and therefore not eligible for contract award. If the contract has already been awarded, the award is voidable.
4. In the solicitation of subcontract quotations or offers, MBE subcontractors were provided not less than the same information and amount of time to respond as were non-MBE subcontractors.

I solemnly affirm under the penalties of perjury that the contents of this paper are true to the best of my knowledge, information and belief.

Bidder/Offeror Name

Address

Signature of Affiant

Printed Name, Title

Date

SUBMIT THIS AFFIDAVIT WITH TECHNICAL OFFER
Attachment B

MBE Participation Schedule

This document must be included with the bid or offer. If the bidder or offeror fails to submit this form with the bid or offer as required, the Procurement Officer shall deem the bid non-responsive or shall determine that the offer is not reasonably susceptible of being selected for award.

<table>
<thead>
<tr>
<th>Prime Contractor (Firm Name, Address, Phone)</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Number</td>
<td>Total Contract Amount</td>
</tr>
</tbody>
</table>

**List Information for Each Certified MBE Subcontractor/Supplier on this Project**

<table>
<thead>
<tr>
<th>Minority Firm Name</th>
<th>MBE Certification Number</th>
</tr>
</thead>
<tbody>
<tr>
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USE ATTACHMENT B CONTINUATION PAGE AS NEEDED

**SUMMARY**

TOTAL MBE PARTICIPATION: ___ %  $____

Document Prepared by: (please print or type)
Name: __________________________ Name/Title: __________________________
(Signature)
Attachment B

MBE PARTICIPATION SCHEDULE (continued)

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<th>Minority Firm Name</th>
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Submit this Schedule with Bid Or Price Proposal
Attachment C

OUTREACH EFFORTS COMPLIANCE STATEMENT

This document must be submitted within 10 working days of receiving notice of potential award or date of conditional award (per COMAR 21.11.03.10), whichever is earlier.

In conjunction with the bid or offer submitted in response to Solicitation No. ______________, I state the following:

1. Bidder/Offeror identified opportunities to subcontract in these specific work categories:

2. Attached to this form are copies of written solicitations (with bidding instructions) used to solicit certified MBEs for these subcontract opportunities.

3. Bidder/Offeror made the following attempts to contact personally the solicited MBEs:

4. □ Bidder/Offeror assisted MBEs to fulfill or to seek waiver of bonding requirements. (Describe efforts)

□ This project does not involve bonding requirements.

5. □ Bidder/Offeror did/did not attend the pre-bid conference
   □ No pre-bid conference was held.

Bidder/Offeror Name

______________________________

By: ________________________________
   (Signature)

Address

______________________________

Name, Title (Print)

______________________________

Date
Attachment D

SUBCONTRACTOR PROJECT PARTICIPATION AFFIDAVIT

This document must be submitted within 10 working days of receiving notice of potential award or date of conditional award (per COMAR 21.11.03.10), whichever is earlier.

Submit one form for each Certified MBE listed in the MBE Participation Schedule (Attachment B)

Provided that ________ is awarded the State contract in conjunction with Solicitation No. __________, it and __________,

Prime Contractor Name

MBE Subcontractor Name

MDOT Certification No. ____________, intend to enter into a contract by which Subcontractor shall: (describe work) ____________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

☐ No bonds are required of Subcontractor:

☐ The following amount and type of bonds are required of Subcontractor:

MBE Subcontractor Contract Amount

Prime Contractor Signature

By: ____________________________________________________________________________________________

Name, Title (Print)

Date

MBE Subcontractor Signature

By: ____________________________________________________________________________________________

Name, Title (Print)

Date
APPENDIX B
CONTRACT FORMS/INFORMATION

UMBC STANDARD SERVICES AGREEMENT FORM
CONTRACT AFFIDAVIT FORM
CONTRACT BETWEEN
THE UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
AND
______________________________________

By this Contract, made as of the day of , 2008, by and between the University of Maryland, Baltimore County, a constituent institution of the University System of Maryland, agency of the State of Maryland (“University”), 1000 Hilltop Circle, Baltimore, Maryland 21250, and ____________________ (“Contractor”), _____________________________, for ( ), the parties hereby agree as follows:

1. **TERM OF CONTRACT**: The term of this Contract shall commence on ______ and terminate on ________.

2. **SCOPE OF CONTRACT**: The Contractor's obligations and duties under this Contract shall include, but are not limited to, the terms, conditions and specifications contained in RFP No. _____ and any amendments or changes thereto as well as the Contractor's proposal submitted in response to the aforementioned RFP (collectively referred to hereinafter as the “Contract Documents”). These obligations and duties are subject to the unilateral right of the University to order, in writing, changes in the work within the scope of the Contract.

   Order of precedence: __________________________

3. **COMPENSATION AND METHOD OF PAYMENT**:  
   A. As compensation for satisfactory performance of the work described in Paragraph 2, above, the University will pay the Contractor $_______.
   B. The Contractor's Federal Tax Identification Number or, where applicable, Social Security Number is ________.
   C. The Contractor shall be paid only for items or services that are specifically named in this Contract. No additional costs for items or services will be paid by the University without its prior express written consent.

4. **DELIVERY**: Delivery shall be made in accordance with bid/RFP specifications. The University reserves the right to test any materials, equipment, supplies or services delivered to determine if the specifications have been met. The materials listed in the specifications shall be delivered FOB the point or points specified prior to or on the date specified in the solicitation. Any material that is defective or fails to meet the terms of the specifications shall be rejected. Rejected materials shall be promptly replaced. The University reserves the right to purchase replacement materials in the open market. Contractors failing to promptly replace materials lawfully rejects shall be liable for any excess price paid for the replacement plus applicable expenses, if any.

5. **NON-HIRING OF EMPLOYEES**: No employee of the State of Maryland or any unit thereof, whose duties as such employee include matters relating to or affecting the subject matter of this Contract, shall, while so employed, become or be an employee of the party or parties hereby contracting with the State of Maryland or any unit thereof.

6. **RESPONSIBILITY OF CONTRACTOR**:  
   A. The Contractor shall perform the services with that standard of care, skill and diligence normally provided by a Contractor in the performance of services similar to the services hereunder.
   B. Notwithstanding any review, approval, acceptance or payment for the services by the University, the Contractor shall be responsible for professional and technical accuracy of its work, design drawings, specifications and other materials furnished by the Contractor under this Contract.

7. **DISSEMINATION OF INFORMATION**:  
   A. During the term of this Contract, the Contractor shall not release any information related to the services or performance of the services under this Contract nor publish any final reports or documents without the prior written approval of the University.
   B. The Contractor shall indemnify and hold harmless the University, its officers, agents and employees, from all liability which may be incurred by reason of dissemination, publication, distribution or circulation, in any manner whatsoever, of any information, data, documents, or materials pertaining in any way to this Contract by the Contractor, its agents or employees.
8. **OWNERSHIP OF DOCUMENTS AND MATERIALS:** The Contractor agrees that all documents and materials, including but not limited to, reports, drawings, studies, specifications, estimates, maps, photographs, designs, graphics, mechanical, artwork, and computations prepared by or for it under the terms of this Contract shall at anytime during the performance of the services be made available to the University upon request by the University and shall become and remain the exclusive property of the University upon termination or completion of the services. The University shall have the right to use same without restriction or limitation and without compensation to the Contractor other than that provided by this Contract. The University shall be the owner for purposes of copyright, patent or trademark registration.

9. **PATENTS, COPYRIGHTS AND TRADE SECRETS:**
   A. If the Contractor furnishes any design, device, material, process or other item which is covered by a patent or copyright or which is deemed proprietary to or a trade secret of another, Contractor shall obtain the necessary permission or license to use such item.
   B. Contractor will defend or settle, at its own expense, any claim or suit against the University alleging that any such item furnished by Contractor infringes any patent, trademark, copyright, or trade secret. Contractor also will pay all damages and costs that by final judgment may be assessed against the University due to such infringement and all attorneys’ fees and litigation expenses reasonably incurred by the University to defend against such a claim or suit. The obligations of this paragraph are in addition to those stated in paragraph 8.3 below.
   C. If any products furnished by Contractor become, or in Contractor’s opinion, are likely to become, the subject of a claim of infringement, Contractor will, at its option: (1) procure for the University the right to continue using the applicable item; (2) replace the product with a non-infringing product substantially complying with the item’s specifications; or (3) modify the item so it becomes non-infringing and performs in a substantially similar manner to the original item.

10. **DISPUTES:** This Contract shall be subject to the provisions of University System of Maryland Procurement Policies and Procedures. Pending resolution of a claim, the Contractor shall proceed diligently with the performance of the Contract in accordance with the Procurement Officer's decision. Any dispute that is not subject to the jurisdiction of the Maryland State Board of Contract Appeals, as provided in the University System Procurement Policies and Procedures, shall be brought in and heard by the courts of the State of Maryland, and the parties voluntarily consent to the exclusive jurisdiction of the courts of this State for any such proceeding.

11. **NONDISCRIMINATION IN EMPLOYMENT:** The Contractor agrees: (a) not to discriminate in any manner against an employee or applicant for employment because of race, color, religion, creed, age, sex, sexual orientation, marital status, national origin, ancestry, or physical or mental handicap unrelated in nature and extent so as reasonably to preclude the performance of such employment; (b) to include a provision similar to that contained in subsection (a), above, in any subcontract except a subcontract for standard commercial supplies or raw materials; and (c) to post and to cause subcontractors to post in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this clause.

12. **CIVIL RIGHTS ACT 1964:** Vendors and Contractors providing materials, equipment, supplies or services to the State under this Contract herewith assure the State that they are conforming to the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1988, and the Civil Rights Act of 1991, and Section 202 of Executive Order 11246 of the President of the United States of America as amended by Executive Order 11375, as applicable.

13. **AFFIRMATIVE ACTION:** The Contractor and all subcontractors shall develop and maintain affirmative action plans directed at increasing the utilization of women and members of minority groups on State public works projects, pursuant to the Executive Order 11246 of the President of the United States of America and guidelines on Affirmative Action issued by the Equal Employment Opportunities Commission (EEOC) 29 C.F.R. part 1608 and the Governor of Maryland’s Executive Order 01.01.1993.16.

14. **CONFLICT OF INTEREST LAW:** It is unlawful for any University officer, employee, or agent to participate personally in his official capacity through decision, approval, disapproval, recommendation, advice, or investigation in any contract or other matter in which he, his spouse, parent, child, brother, or sister, has a financial interest or to which any firm, corporation, association, or other organization in which he has a financial interest or in which he is serving as an officer, director, trustee, partner, or employee, or any person or organization with whom he is negotiating or has any arrangement concerning prospective employment, is a party, unless such officer, employee, or agent has previously complied with the provisions of Article 40A, §3-101 et seq of the Annotated Code of Maryland.

15. **CONTINGENT FEE PROHIBITION:** The Contractor, Architect, or Engineer (as applicable) warrants that it has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for the Contractor, Architect, or Engineer, to solicit or secure this agreement, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee or any other consideration contingent on the making of this agreement.
16. **INTELLECTUAL PROPERTY:** Contractor agrees to indemnify and save harmless the State, its officers, agents and employees with respect to any claim, action, cost or judgment for patent infringement, or trademark or copyright violation arising out of purchase or use of materials, supplies, equipment or services covered by this Contract.

17. **SOFTWARE CONTRACTS:** [Delete if not applicable and insert “N/A”] As specifically provided by Maryland Code Annotated, Commercial Law Article, Section 21-104, the parties agree that this Contract shall not be governed by the Uniform Computer Information Transaction Act (“UCITA”), Title 21 of the Maryland Code Annotated, Commercial Law Article, as amended from time to time. This Contract shall be governed by the common law of Maryland relating to written agreements, as well as other statutory provisions, other than UCITA, which may apply, and shall be interpreted and enforced as if UCITA had never been adopted in Maryland. Vendor/Contractor agrees that, as delivered to the University, the software does not contain any program code, virus, worm, trap door, back door, timer or clock that would erase data, or programming or otherwise cause the software to become inoperable, inaccessible, or incapable of being used in accordance with its conditions, or manually on command of Vendor/Contractor.

18. **EPA COMPLIANCE:** Materials, supplies, equipment and services shall comply in all respects with the federal Noise Control Act of 1972, where applicable. Power equipment, to the greatest extent possible, shall be the quietest available. Equipment certified by the US EPA as a Low Noise Emission Product pursuant to the Federal Noise Control Act of 1972 shall be considered to meet the intent of the regulation. The Contractor must supply and have immediately available to their employees spill containment equipment/supplies necessary to contain any hazards they may introduce to the job site. The Contractor is responsible for any and all costs incurred by the University in remediating spills or releases of materials he/she introduced onto the job site.

19. **MULTI-YEAR CONTRACTS CONTINGENT UPON APPROPRIATIONS:** If the General Assembly fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of this Contract succeeding the first fiscal period, this Contract shall be canceled automatically as of the beginning of the fiscal year for which funds were not appropriated or otherwise made available; provided, however, that this will not affect either the State's rights or the Contractor's rights under any termination clause in this Contract. The effect of termination of the Contract hereunder will be to discharge both the Contractor and the State of Maryland from future performance of the Contract, but not from their rights and obligations existing at the time of termination. The Contractor shall be reimbursed for the reasonable value of any non-recurring costs incurred but not amortized in the price of the Contract. The State shall notify the Contractor as soon as it has knowledge that funds may not be available for the continuation of this Contract for each succeeding fiscal period beyond the first.

20. **TERMINATION FOR DEFAULT:** If the Contractor fails to fulfill its obligation under this contract properly and on time, or otherwise violates any provision of the contract, the University may terminate the contract by written notice to the Contractor. The notice shall specify the acts or omissions relied upon as cause for termination. All finished or unfinished work provided by the Contractor shall, at the University's option, become the University's property. The University shall pay the Contractor fair and equitable compensation for satisfactory performance prior to receipt of notice of termination, less the amount of damages caused by Contractor's breach. If damages are more than the compensation payable to the Contractor, the Contractor will remain liable after termination and the University can affirmatively collect damages. Termination hereunder, including the determination of the rights and obligations of the parties, shall be governed by the provisions of USM Procurement Policies and Procedures.

21. **TERMINATION FOR CONVENIENCE:** The performance of work under this Contract may be terminated by the University in accordance with this clause in whole, or from time to time in part, whenever the University shall determine that such termination is in the best interest of the University. The University will pay all reasonable costs associated with this Contract that the Contractor has incurred up to the date of termination and all reasonable costs associated with termination of the Contract. However, the Contractor shall not be reimbursed for any anticipatory profits that have not been earned up to the date of termination. Termination hereunder, including the determination of the rights and obligations of the parties, shall be governed by the provisions of USM Procurement Policies and Procedures.

22. **TERMINATION OF MULTIYEAR CONTRACTS:** If the General Assembly fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of this Contract succeeding the first fiscal period, this Contract shall be canceled automatically as of the beginning of the fiscal year for which funds were not appropriated or otherwise made available; provided, however, that this will not affect either the State’s rights or the Contractor’s rights under any termination clause in the Contract. The effect of termination of the Contract hereunder will be to discharge both the Contractor and the State from future performance of the Contract but not from their rights and obligations existing at the time of termination. The Contractor shall be reimbursed for the reasonable value of any non-recurring costs incurred but not amortized in the price of the Contract. The State shall notify the Contractor as soon as it has knowledge that funds may not be available for the continuation of this Contract for each succeeding fiscal period beyond the first.
23. **DELAYS AND EXTENSIONS OF TIME:** The Contractor agrees to perform this agreement continuously and diligently. No charges or claims for damages shall be made by the Contractor for any delays or hindrances, regardless of cause, in the performance of services under this Contract. Time extensions will be granted only for excusable delays that arise from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the State in either its sovereign or contractual capacity, acts of another Contractor in the performance of a State Contract, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or the delay of a sub-contractor or supplier arising from unforeseeable causes beyond the control and without the fault or negligence of either the Contractor or the subcontractors or suppliers.

24. **VARIATIONS IN ESTIMATED QUANTITIES:** [Delete is not applicable - if contract does not contain estimated quantity items.] No equitable adjustment shall be permitted in favor of either the State of Maryland or the Contractor in the event that the quantity of any pay item in this Contract is an estimated quantity and the actual quantity of such pay item varies from the estimated quantity stated in the Contract.

25. **LIQUIDATED DAMAGES:** [To be included where deemed appropriate by the Procurement Officer or insert “N/A”]

26. **SUSPENSION OF WORK:** The procurement officer unilaterally may order the Contractor in writing to suspend, delay or interrupt all or any part of the work for such period of time as the Procurement Officer may determine to be appropriate for the convenience of the University.

27. **PRE-EXISTING REGULATIONS:** In accordance with the provisions of Section 11-206 of the State Finance and Procurement Article, Annotated Code of Maryland, the regulations set forth in USM Procurement Policies and Procedures in effect on the date of execution of this Contract are applicable to this Contract.

28. **FINANCIAL DISCLOSURE:** The Contractor shall comply with the provisions of Section 13-221 of the State Finance and Procurement Article of the Annotated Code of Maryland, as from time to time amended, which requires that every business that enters into contracts, leases or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate $100,000 or more, shall, within 30 days of the time when the aggregate value of these contracts, leases or other agreements reaches $100,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

29. **POLITICAL CONTRIBUTION DISCLOSURE:** The Contractor shall comply with Article 33, Sections 14-101 through 14-104, of the Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State, a county, or an incorporated municipality, or their agencies, during a calendar year under which the person receives in the aggregate $100,000 or more shall file with the State Administrative Board of Election Laws a statement disclosing contributions in excess of $500 to a candidate for elective office in any primary or general election. The statement shall be filed with the State Administrative Board of Election Laws: (1) before a purchase or execution of a lease or contract by the State, a county, an incorporated municipality, or their agencies, and shall cover the preceding two calendar years; and (2) if the contribution is made after the execution of a lease or contract, then twice a year, throughout the contract term, on: (a) February 5, to cover the 6-month period ending January 31; and (b) August 5, to cover the 6-month period ending July 31.

30. **RETENTION OF RECORDS:** The Contractor shall retain and maintain all records and documents relating to this Contract for three (3) years after final payment by the University hereunder or any applicable statute of limitations, whichever is longer, and shall make them available for inspection and audit by authorized representatives of the University, including the Procurement Officer or the Procurement Officer's designee, at all reasonable times.

31. **AUDIT:** The University reserves the right to request an independent review of the Contractor's financial operations and overall contract compliance (“Review”). The Review would be at the Contractor’s expense and comprised of an agreed upon procedures engagement by an independent certified public accountant with a protocol acceptable to both parties at the time of the request.

32. **COMPLIANCE WITH LAWS:** The Contractor hereby represents and warrants that:
   A. It is qualified to do business in the State of Maryland and that it will take such action as, from time to time hereafter, may be necessary to remain so qualified;
   B. It is not in arrears with respect to the payment of any monies due and owing the State of Maryland, or any department or unit thereof, including but not limited to the payment of taxes and employee benefits, and that it shall not become so in arrears during the term of this Contract;
   C. It shall comply with all federal, State and local laws, regulations, and ordinances applicable to its activities and obligations under this Contract; and
D. It shall obtain at its expense, all licenses, permits, insurance, and governmental approval, if any, necessary to the performance of its obligations under this Contract.

33. **COST AND PRICE CERTIFICATION**: By submitting cost or price information, the Contractor certifies to the best of its knowledge that the information submitted is accurate, complete, and current as of a mutually determined specified date prior to the conclusion of any price discussions or negotiations for:
   A. A negotiated contract, if the total contract price is expected to exceed $100,000, or a smaller amount set by the procurement officer; or
   B. A change order or contract modification, expected to exceed $100,000, or a smaller amount set by the procurement officer.
   C. The price under this Contract and any change order or modification hereunder, including profit or fee, shall be adjusted to exclude any significant price increases occurring because the Contractor furnished cost or price information which, as of the date agreed upon between the parties, was inaccurate, incomplete, or not current.

34. **TRUTH-IN NEGOTIATION CERTIFICATION**: [Mandatory provision for architectural services or engineering services contracts exceeding $100,000. It shall be in substantially the same form as follows: or insert “N/A” if not applicable.] The Contractor by submitting cost or price information, including wage rates or other actual unit costs, certifies to the best of its knowledge, information and belief, that:
   A. the wage rates and other factual unit costs supporting the firm's compensation, as set forth in the proposal, are accurate, complete and current as of the contract date;
   B. if any items of compensation were increased due to the furnishing of inaccurate, incomplete or noncurrent wage rates or other units of costs, the State is entitled to an adjustment in all appropriate items of compensation, including profit or fee, to exclude any significant sum by which the price was increased because of the defective data. The University's right to adjustment includes the right to a price adjustment for defects in costs or pricing data submitted by a prospective or actual subcontractor; and
   C. If additions are made to the original price of the contract, such additions may be adjusted to exclude any significant sums where it is determined the price has been increased due to inaccurate, incomplete or noncurrent wage rates and other factual costs.

35. **PAYMENT OF UNIVERSITY OBLIGATIONS**: Payments to the Contractor pursuant to this Contract shall be made no later than 30 days after the University's receipt of a proper invoice from the Contractor. Each such invoice must reflect the Contractor's federal tax identification number. Charges for late payment of invoices, other than as prescribed by Title 15, Subtitle 1, of the State Finance and Procurement Article, Annotated Code of Maryland, as from time to time amended, are prohibited.

36. **SET-OFF**: The University may deduct from and set-off any amounts due and payable to the Contractor any back-charges or damages sustained by the University by virtue of any breach of this Contract by the Contractor or by virtue of the failure or refusal of the Contractor to perform the services or any part of the services in a satisfactory manner. Nothing herein shall be construed to relieve the Contractor of liability for additional costs resulting from a failure to satisfactorily perform the services.

37. **INDEMNIFICATION**: The University shall not assume any obligations to indemnify, hold harmless, or pay attorneys’ fees that may arise from or in any way be associated with the performance or operation of this Contract.

38. **PROHIBITION AGAINST SHIFTING MARYLAND INCOME TO OUT-OF-STATE AFFILIATES**: Contractor may not, for any period during the Contract term, seek to reduce the amount of Contractor’s income subject to Maryland income tax by payments made to an affiliated entity or an affiliate’s agent for the right to use trademarks, trade names, or other tangible property associated with Contractor. Contractor agrees that during the course of this Contract it shall not make any such royalty or similar payments to any affiliated company; and if any such royalty or similar payments are made, Contractor and the affiliated company shall file separate Maryland income tax, under a formula that reasonably apportions the income of the affiliated company among the states, including Maryland, in which the Contractor does business. Contractor agrees that it is authorized to bind its affiliated entities to the terms hereof.
39. **ENTIRE AGREEMENT:**

A. This Contract constitutes the entire agreement of the parties and supersedes all prior written or oral and all contemporaneous oral agreements, understandings, and negotiations between the parties with respect to the subject matter hereof. This Contract is intended by the parties as the final expression of their agreement and may not be contradicted by evidence of any prior or contemporaneous agreement.

B. Headings: All headings are for reference purposes only and must not affect the interpretation of this Contract. All references to days in this Agreement mean calendar days, unless otherwise expressly stated. All references to including mean including without limitation.

C. Partial Invalidity. Any provision of this Contract which is found to be invalid or unenforceable shall be ineffective to the extent of such invalidity or unenforceability, and the invalidity or unenforceability of such provision shall not affect the validity or enforceability of the remaining provisions hereof.

D. Notices. Any notice required to be given hereunder shall be deemed to have been given either when served personally, by facsimile, or when sent by first class mail addressed to the parties at the addresses set forth in this Agreement.

E. Counterparts. This Contract may be executed simultaneously, in two (2) or more counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same document. The signature of any party to any counterpart shall be deemed a signature to, and may be appended to any other counterpart.

40. **CONTRACT CONTROLS:** It is mutually agreed that any attached contract, or addenda thereto, by and between the University and the Contractor pertaining to this Contract is supplemental and subordinate to this University of Maryland, Baltimore County Contract. The terms and conditions of this University of Maryland, Baltimore County Contract shall, at all times and in all events and situations, be controlling.

41. **USE OF CONTRACTOR’S FORMS NOT BINDING ON STATE:**

A. The use or execution by the University of any forms, orders, agreements, or other documents of any kind, other than the Contract documents, used pursuant to or in the administration of any contract awarded by the University to the Contractor, shall not bind the University to any of the terms and conditions contained therein except those provisions:

   1. Generally describing for the purposes of ordering: equipment or services to be provided, locations, quantities, delivery or installation dates, and, to the extent consistent with the Contract Documents, prices; and
   2. not otherwise inconsistent with the Contract Documents.

B. Any such form, order, or others document shall not vary, modify, or amend the terms and provisions of the Contract Documents, notwithstanding any provision to the contrary in such document, unless all of the following conditions are met:

   1. the document expressly refers to the particular document and provision of the Contract Documents being modified and plainly and conspicuously identifies any modifications thereto as a modification; and
   2. the document is executed on behalf of the University by the procurement officer; and
   3. execution of the document is approved by the procurement authority whose approval is required by law.

42. **ASSIGNMENT:** This Contract and the rights, duties, and obligations hereunder may not be assigned or subcontracted by Contractor without the prior written consent of the University.
43. **WAIVER OF JURY**: UNIVERSITY AND CONTRACTOR, HEREBY WAIVE TRIAL BY JURY IN ANY ACTION OR PROCEEDING TO WHICH THEY ARE PARTIES ARISING OUT OF OR IN ANY WAY PERTAINING TO THIS CONTRACT. IT IS AGREED AND UNDERSTOOD THAT THIS WAIVER CONSTITUTES A WAIVER OF TRIAL BY JURY OF ALL CLAIMS AGAINST ALL PARTIES WHO ARE NOT PARTIES TO THIS CONTRACT. THIS WAIVER IS KNOWINGLY, WILLINGLY AND VOLUNTARILY MADE BY UNIVERSITY AND CONTRACTOR, WHO HEREBY REPRESENT AND WARRANT THAT NO REPRESENTATIONS OF FACT OR OPINION HAVE BEEN MADE BY AN INDIVIDUAL TO INDUCE THIS WAIVER OF TRIAL BY JURY OR TO IN ANY WAY MODIFY OR NULLIFY ITS EFFECT.

44. **MARYLAND LAW**: This Agreement shall be governed by and construed in accordance with the laws of the State of Maryland, without regard to its conflicts of law or choice of law principles.

45. **SUCCESSORS AND ASSIGNS». This Agreement will bind upon and inure to the benefit of the parties hereto and their respective personal representatives/successors and assigns. Successors and assigns shall agree to assume in writing the obligations under this Contract.

46. **CONTRACT AFFIDAVIT**: The Contract Affidavit required by the USM Procurement Policies and Procedures, consisting of Authorized Representative statement, Certification of Corporate Registration and Tax Payment, and Certain Affirmations Valid is attached and is a part of this Contract that must be executed by an authorized representative of the Contractor.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed on their behalf by the undersigned as of the date first shown above.

Contractor: ____________________________

BY: ____________________________

 Witness

______________________________

Typed/Printed Name

Title

Date

Telephone Number

University of Maryland Baltimore County

BY: ____________________________

 Witness

______________________________

Typed/Printed Name

Title

Date
CONTRACT AFFIDAVIT

A. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:  I am the (title) ______________________ and the duly authorized representative of (business) and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

B. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

I FURTHER AFFIRM THAT:

(1) The business named above is a (domestic __) (foreign __) corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation, and that the name and address of its resident agent filed with the State Department of Assessments and Taxation is:

Name: __________________________________________________________________________

Address: __________________________________________________________________________

(2) Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Employment Security Administration, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

C. CERTAIN AFFIRMATIONS VALID

I FURTHER AFFIRM THAT to the best of my knowledge, information, and belief, each of the affirmations, certifications, or acknowledgments contained in that certain Bid/Proposal Affidavit dated __________, 2005, and executed by me for the purpose of obtaining the contract to which this Exhibit is attached remains true and correct in all respects as if made as of the date of this Contract Affidavit and as if fully set forth herein.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: ___________     By: ________________________________  (Authorized Representative and Affiant)

Revised January 2005
APPENDIX C

PRICE PROPOSAL FORM
APPENDIX C

PROPOSAL NO.: RFP-BC-20612-Q

PRICE PROPOSAL DUE DATE: THURSDAY, JUNE 18, 2009, at 2:00 P.M.

PROPOSAL FOR: UMBC BW TECHNOLOGY CENTER - FIRE ALARM SYSTEM RENOVATION

PROPOSER: ____________________________________________________

Federal Identification Number/Social Security Number:_______________

PRICE PROPOSAL

DATE_______________________

Ms. Sharon Quinn
University of Maryland Baltimore County
1000 Hilltop Circle, Administration Building #301
Baltimore, MD 21250

Dear Ms. Quinn,

The undersigned hereby submits the Price Proposal as set forth in RFP-BC-20612-Q dated 04/01/09 and the following subsequent addenda:

Addendum _____ dated_______
Addendum _____ dated_______
Addendum _____ dated_______

We confirm that this Price Proposal is based on the Requirements per the RFP and any subsequent addenda as noted above.

Having received clarification on all matters upon which any doubt arose, the undersigned proposes to complete the work as described in this RFP and subsequent Addenda as noted above. By signing and submitting this response, undersigned hereby agrees to all the terms and conditions of this RFP including any issued addenda. Proposers are cautioned to verify their final proposals prior to submission, as UMBC cannot be responsible for Proposer's errors or omissions. Any price proposal that has been accepted by UMBC may not be withdrawn by the Contractor.

The lump sum price to provide the fire alarm system renovation is:

TOTAL PRICE:

Written in words ___________________________ and in dollars $ ________________.

Page 1 of 3
PROPOSAL NO.: RFP-BC-20612-Q
PRICE PROPOSAL DUE DATE: THURSDAY, JUNE 18, 2009, at 2:00 P.M.
PROPOSAL FOR: UMBC BW TECHNOLOGY CENTER - FIRE ALARM SYSTEM RENOVATION

PROPOSER: ____________________________________________________

We understand that by submitting a proposal we are agreeing to all of the terms and conditions included in the RFP documents, and that the Bid/Proposal Affidavit submitted as part of the original technical proposal remains in effect. The evaluation and subsequent final ranking of proposals will be in accordance the RFP documents. We understand that technical weighs greater than cost.

We further understand that this Price Proposal includes all costs associated with the provision of the Services per this RFP. We understand that the University reserves the right to award a contract (or contracts) for all items, or any parts thereof, as set forth in detail under the information furnished in the RFP document.

We further confirm that the key personnel named within our Technical Proposal will be assigned to the UMBC Contract for the duration of this contract. We understand that no changes in this assignment will be allowed without written authorization from the University via contract amendment prior to such changes being made.

(Signatures should be placed on following page.)

Page 2 of 3
The Proposer represents, and it is a condition precedent to acceptance of this proposal, that the Proposer has not been a party to any agreement to submit a fixed or uniform price. Sign where applicable below.

A. INDIVIDUAL PRINCIPAL
In Presence of Witness:_________________ FIRM NAME________________
ADDRESS__________________________
TELEPHONE NO._________________
SIGNED__________________________
Printed Name_____________________
Title:____________________________

B. CO-PARTNERSHIP PRINCIPAL
(Name of Co - Partnership)
ADDRESS__________________________
TELEPHONE NO._________________
______________________ as to BY __________________ (Partner)
Printed Name:_____________________
______________________ as to BY __________________ (Partner)
Printed Name:_____________________
______________________ as to BY __________________ (Partner)

C. CORPORATE PRINCIPAL
Printed Name: _____________________
______________________________ (Name of Corporation)
ADDRESS________________________
TELEPHONE NO._________________
Attest:
________________________
[Printed Name of Corporate (or Assistant Corporate)Secretary]
[Corporate (or Assistant Corporate) Secretary Signature for Identification]
BY: __________________________ Signature of Officer and Title
Printed Name ____________________________

Page 3 of 3

Title
APPENDIX D

OTHER GENERAL INFORMATION FOR PROPOSERS
Appendix D – Other General Information For Proposers

1 Definitions

1.1 **Award** means the decision by the University to execute the purchase agreement or contract after all necessary approvals have been obtained.

1.2 **COMAR** refers to the *Code of Maryland Regulations*.

1.3 **Contract** means the agreement entered into by the University as a result of this solicitation.

1.4 **Contractor** means the successful Proposer receiving a contract as a result of this solicitation.

1.5 **MBE** means “Minority Business Enterprise” which is any legal entity other than a joint venture, organized to engage in commercial transactions which is at least 51 percent-owned and controlled by one or more minority persons, or a nonprofit entity organized to promote the interests of the physically or mentally disabled as certified by the Maryland Department of Transportation. Refer to section 2.20 below.

1.6 **Proposer** means any person submitting a response to an RFP.

1.7 **Proposals** means the response by a Proposer to a request for proposals issued by a procurement agency to obtain goods or labor. The response may include but is not limited to a Proposer’s price and terms for the proposed contract, a description of technical expertise, work experience, and other information requested in the solicitation.

1.8 **RFP** means Request for Proposal(s).

1.9 **Time** – any time stated in this solicitation (e.g., 11:00 a.m.) is eastern standard time (“E.S.T.”)

1.10 **University or “UMBC”** – means the University of Maryland Baltimore County.

1.11 **USM** means the University System of Maryland.

2 General

The following general information is provided and must be carefully followed by all Proposers to insure that proposals are properly prepared.

2.1 Proposals must be made in the official name of the firm or individual under which business is conducted (showing official business address) and must be signed by a duly authorized person.

2.2 Erasures or other changes must be initialed by the person signing the proposal. Proposals signed by an agent of the corporation must be accompanied by evidence of his or her authority.

2.3 All material submitted in response to this RFP becomes the property of the University and will only be returned to the Proposer at the sole option of the University.
2.4 Addenda and Amendment to the RFP

The University reserves the right to amend this RFP at any time prior to the proposal due date. If it becomes necessary to revise any part of this RFP, notice of the revision will be given in the form of an addendum, which will be provided to all prospective Proposers who are on record with the Procurement Officer as having received this RFP.

Amendments shall be distributed within a reasonable time to allow Proposers to consider them in preparing their proposals. If, in the opinion of the Procurement Officer, the time and date for receipt of proposals does not permit preparation, the time shall be increased to the extent possible in the amendment, or, if necessary, by telegram, telephone, or FAX machine and confirmed in the amendment. Any Addenda will be deemed to have been validly given if the Addenda are issued and mailed or otherwise furnished to each Proposer’s contact person of record.

An acknowledgement of the receipt of all amendments, addenda, and changes issued shall be required from all Proposers receiving the RFP. It is the responsibility of each Proposer to check for announcements, addenda, and other current information regarding this solicitation. Failure to acknowledge receipt of addenda does not relieve the Proposer of the responsibility to perform as required by all RFP documents including addenda or changes thereto. Therefore, Proposer must make sure that all addenda has been received and acknowledged to avoid later conflict.

2.5 Cancellation of The RFP

The University reserves the right to cancel this RFP, in whole or in part, at any time before the opening of the proposals. Should it become evident during the evaluation of the proposals that it is no longer in the best interest of the University to make an award under this solicitation, the University reserves the right to cancel the RFP. The University will not be responsible for any costs incurred due to cancellation of the RFP.

2.6 Rejection of Proposals

The University reserves the right to reject any and all proposals, in whole or in part, if (among other reasons):

.1 In the determination of the University, if the pricing proposed is unrealistic or exceeds available funding.
.2 The Proposer takes exception to the terms and conditions of this RFP;
.3 The Proposer fails to comply with the requirements set forth herein for participating in this RFP process;
.4 The University determines that the proposal is incomplete in any way; or
.5 The Proposer fails to meet any of the requirements/specifications set forth in this solicitation;
.6 The University determines that the proposal is not in its best interest.

The University will not be responsible for any costs incurred due to rejection of the RFP.
2.7 Minor Irregularities or Deficiencies in Proposals

The University may request clarifications from any Proposer under consideration. If the University determines that a Proposer has made a minor irregularity or deficiency, the University reserves the right to waive any minor irregularity or deficiency or to allow a Proposer a reasonable opportunity to cure the minor irregularity or deficiency. Such a clarification will not be considered an amendment to the Proposal.

2.8 Withdrawal of Proposals

Proposals may be withdrawn only if a request is made in writing before the due date and time. No amendment or withdrawal will be permitted after the due date and time.

2.9 Incurred Expenses

The University will not be responsible for any costs incurred by any Proposer in preparing and submitting a proposal.

2.10 Proposal Bond: Intentionally omitted.

2.11 Performance and Payment Bonds: Intentionally omitted.

2.12 Evidence of Responsibility

Prior to the award of a contract pursuant to this RFP, the Procurement Officer may require a Proposer to submit such additional information bearing upon the Proposer’s ability to perform the contract as the Procurement Officer deems appropriate. The Procurement Officer may also consider any information otherwise available concerning the financial, technical, and other qualifications of the Proposer.

2.13 Other Certifications

State procurement regulations require that proposals contain certifications regarding non-collusion, debarment, cost and price. The affidavit form, which must be completed by all respondents and returned with their respective responses, is included as a part of Proposal Affidavit – Attachment A of the RFP.

2.14 Execution of Proposals

All proposals shall be legibly prepared and shall be signed in ink as and where specified.

Proposals are required to be executed as follows, depending on the Proposer’s form of business organization:

.1 **Sole Proprietorship** – signed by proprietor with full name address.

.2 **Partnership and Joint Venture** - If a proposal is submitted by a partnership (including a joint venture), it must be submitted in the partnership name. The partnership name and the identity of each general partner must be made clear and all affidavits and certificates must be executed on behalf of the partnership or on behalf of each general partner. No provision of any agreement among partners will be binding on the State unless it is disclosed in the proposal. Reasonable evidence satisfactory to the State of the authority of one partner to bind the other purported
partner(s) must also be given in the proposal. It is recommended that the proposal contain a copy of the partnership agreement, if one exists. If no partnership agreement exists and if the number of general partners is reasonably small, each general partner must execute all required documents, including proposals. At the State’s option all general partners may be required to sign the proposal. Failure to present the State with satisfactory information concerning a purported partnership may be grounds for finding a proposal unacceptable.

3 Corporation – An officer or authorized agent of the corporation shall sign his/her full name, indicate his/her title and include the name and address of the corporation. In the case of an authorized agent, a letter from an officer of the corporation authorizing said individual to act on behalf of the corporation must be included.

2.15 Arrearages

By submitting a response to this solicitation, a vendor shall be deemed to represent that it is not in arrears in the payment of any obligation due and owing the State of Maryland, including the payment of taxes and employee benefits and that it shall not become so in arrears during the term of the contract is selected for contract award.

2.16 Indemnification and Responsibility for Claims and Liability

With respect to any contract, which results from this solicitation, Proposer must note the following:

2.16.1 The Contractor shall indemnify, save harmless and defend, the University of Maryland, Baltimore County, its officers, employees and agents, from any and all claims, liability, losses and causes of actions which may arise out of the performance by the Contractor, its employees, agents, or subcontractors, of the work covered by this Contract.

2.16.2 The State has no obligation to provide legal counsel or defense or pay attorney’s fees to the Contractor or its subcontractors in the event that a suit, claim or action of any character is brought by any person not party to the contract against the Contractor or its subcontractors as a result of or relating to the Contractor’s obligations under this Contract.

2.16.3 The State has no obligation for the payment of any judgments or the settlement of any claims against the Contractor or its subcontractors as a result of or relating to the Contractor’s obligations under this Contract.

2.16.4 The Contractors shall immediately notify the Procurement Officer of any claim or suit made or filed against the Contractor or its subcontractors regarding any matter resulting from or related to the Contractor’s obligations under the Contract, and will cooperate, assist, and consult with the State in the defense or investigation of any claim, suit, or action made or filed against the State as a result of or relating to the Contractor’s performance under this Contract.

2.17 Insurance:

2.17.1 The Contractor shall secure, pay the premiums for, and keep in force until the expirations of this Contract, and any renewal thereof, adequate insurance as provided below, adequate insurance to specifically include liability assumed by the Contractor under this Contract.

.1 Commercial General Liability Insurance including all extensions:
$5,000,000 each occurrence;  
$5,000,000 personal injury;  
$5,000,000 products/completed operations;  
$5,000,000 general aggregated

2 Workmen’s Compensation Insurance and Unemployment Insurance as required by the laws of the State of Maryland.

3 Owner’s Landlord’s and tenant’s and Contractor’s bodily injury liability insurance, with limits of not less than $500,000 for each person and $5,000,000 for each accident.

4 Property damage liability insurance with a limit of not less than $2,000,000 for each accident.

5 If automotive equipment is used in the operation, automobile bodily injury liability insurance with limits of not less than $1,000,000 for each person and $5,000,000 for each accident, and property damage liability insurance, with a limit of not less than $2,000,000 for each accident.

2.17.2 All policies for liability protection, bodily injury or property damage must specifically name or its face, the University of Maryland Baltimore County as an additionally named insured as respects to operations under the contract and premises occupied by the Contractor provided, however, with respect to the Contractor’s liability for bodily injury or property damage under item 2.22.1 above, such insurance shall cover and not exclude Contractor’s liability for injury to the property of the University of Maryland Baltimore County and to the persons or property of employees, students, faculty members, agents, officers, regents, invitees or guests of the University of Maryland Baltimore County.

2.17.3 Each insurance policy shall contain the following endorsements: “It is understood and agreed that the Insurance Company shall notify in writing Procurement Officer thirty (30) days in advance of the effective date of any reduction in or cancellation of this policy.” A certificate of each policy of insurance shall be furnished to the Procurement Officer. With the exception of Workmen’s Compensation, upon the request of the Procurement Officer a certified true copy of each policy of insurance, including the above endorsement manually countersigned by an authorized representative of the insurance company, shall be furnished to the Procurement Officer. A certificate of insurance for Workmen’s Compensation together with a properly executed endorsement for cancellation notice shall also be furnished. Following the notice of Contract award, the requested Certificates and Policies shall be delivered as directed by the Procurement Officer. Notices of policy changes shall be furnished to the Procurement Officer.

2.17.4 All required insurance coverages must be acquired from insurers allowed to do business in the State of Maryland and acceptable to the University. The insurers must have a policyholders’ rating of “A-” or better, and a financial size of “Class VII” or better in the latest edition of Best’s Insurance Reports.

2.17.5 Each insurance policy shall contain the following endorsements: “It is understood and agreed that the Insurance Company shall notify in writing the Assistant Vice President for Administrative Services thirty (30) days in advance of the effective date of any reduction in or cancellation of this policy.” A certificate of each policy of insurance shall be furnished to the Procurement Officer. With the exception of Workmen’s Compensation, a certified true copy of each policy of insurance, including the above endorsement manually countersigned by an authorized representative of the insurance company, shall be furnished to the Procurement Officer. A certificate of insurance for Workmen’s Compensation together with a properly executed endorsement for cancellation notice shall also be furnished. The above policies and certificate shall be delivered to the Procurement Officer within fifteen (15) days following the date
of notice of Contract award. The insurance companies providing the above coverage shall be satisfactory to the University. Notices of policy changes shall be furnished to the Procurement Officer.

2.17.6 Any contract that results from this solicitation and the rights, duties, and obligations hereunder may not be assigned or subcontracted by Contractor without the prior written consent of the University.
APPENDIX E

“Specifications for University of Maryland Baltimore County (UMBC)
Fire Alarm System Renovation-PRF-SC0801”

On Behalf of UMBC by
Whitman, Requardt and Associates, LLP
UNIVERSITY OF MARYLAND
BALTIMORE COUNTY

UMBC TECHNOLOGY CENTER
FIRE ALARM SYSTEM RENOVATION
PRF-SC0801

INSTRUCTIONS TO BIDDERS,
BIDDING PROCEDURES, GENERAL CONDITIONS,
SPECIAL PROVISIONS, DETAILED SPECIFICATIONS,
PREVAILING WAGE DETERMINATION, PROPOSAL FORM,
COMPLIANCE FORM FOR
DISADVANTAGED BUSINESS ENTERPRISE,
PAYMENT BOND, PERFORMANCE BOND, AND
CONSENT OF SURETY

FEBRUARY, 2009

Whitman, Requardt and Associates, LLP
Engineers, Architects and Planners
Baltimore, Maryland
## UNIVERSITY OF MARYLAND BALTIMORE COUNTY

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section includes:
   1. Project information.
   2. Work covered by Contract Documents.
   3. Access to site.
   4. Coordination with occupants.
   5. Work restrictions.

1.3 PROJECT INFORMATION
   1. Project Location: UMBC South Campus.
B. Owner: University of Maryland Baltimore County.
C. Architect/Engineer: Whitman, Requardt & Associates, LLP.

1.4 WORK COVERED BY CONTRACT DOCUMENTS
A. The Work of the Project is defined by the Contract Documents and consists of the following:
   1. Removing existing fire alarm system, installing new fire alarm system, cutting, patching and painting.

1.5 ACCESS TO SITE
A. General: Contractor shall have full use of Project site for construction operations during construction period.
B. Use of Site: Limit use of Project site areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weather tight condition throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.

2. Notify the Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7 a.m. to 4 p.m., Monday through Friday.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than five days in advance of proposed utility interruptions.

2. Obtain Owner’s written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than five days in advance of proposed disruptive operations.

2. Obtain Owner’s written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor air intakes.
F. Controlled Substances: Use of tobacco products and other controlled substances on the Project site is not permitted.

G. Employee Identification: Provide identification tags for Contractor personnel working on the Project site. Require personnel to utilize identification tags at all times.

H. Employee Screening: Comply with Owner's requirements regarding drug and background screening of Contractor personnel working on the Project site.

1. Maintain list of approved screened personnel with Owner's Representative.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.

3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.9 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000
SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:
   1. Divisions 02 through 49 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

   1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
   2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

   1. Substitution Request Form
   2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

      a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
      b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

i. Research reports evidencing compliance with building code in effect for Project.

j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.

k. Cost information, including a proposal of change, if any, in the Contract Sum.

l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.

m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Project Manager's Action: Project Manager shall forward request for substitution to Engineer. If necessary, Engineer will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Engineer will notify Contractor through Project Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.


b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.
1.6 PROCEDURES

A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Substitution request is fully documented and properly submitted.
c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approvals of authorities having jurisdiction.
e. Requested substitution is compatible with other portions of the Work.
f. Requested substitution has been coordinated with other portions of the Work.
g. Requested substitution provides specified warranty.
h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed, unless otherwise indicated.

C. Substitutions for Convenience: Engineer will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.
f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500
SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General project coordination procedures.
   2. Administrative and supervisory personnel.
   3. Coordination drawings.
   4. Requests for Information (RFIs).
   5. Project Web site.
   6. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Sections:
   1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
   2. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.
   3. Division 01 Section "General Commissioning Requirements" for coordinating the Work with Owner's commissioning authority.

1.3 DEFINITIONS

A. RFI: Request from Owner, Project Manager, Engineer, or Contractor seeking information from each other during construction.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.

B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.

C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.

2. Preparation of the schedule of values.

3. Installation and removal of temporary facilities and controls.

4. Delivery and processing of submittals.

5. Progress meetings.

6. Preinstallation conferences.

7. Project closeout activities.

8. Startup and adjustment of systems.

9. Project closeout activities.

E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.
1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

   a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
   b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
   c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
   d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
   e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
   f. Indicate required installation sequences.
   g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Fire Protection System: Show the following:
   a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
4. Review: Engineer will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's
responsibility. If the Engineer determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Architect will so inform the Contractor, who shall make changes as directed and resubmit.

5. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 01 Section "Submittal Procedures."

C. Coordination Digital Data Files: Prepare coordination digital data files in accordance with the following requirements:

1. File Preparation Format: Same digital data software program, version, and operating system as the original Drawings.
3. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format.

   a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to the Drawings.
   b. Digital Data Software Program:
   c. Contractor shall execute a data licensing agreement in the form of AIA Document C106.

1.6 KEY PERSONNEL

A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Engineer will return RFIs submitted to Project Manager by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Project Manager.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
   a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms:

D. Construction Manager’s and Engineer’s Action: Construction Manager and Engineer will review each RFI, determine action required, and respond. Allow 7 working days for Architect's response for each RFI. RFIs received by Engineer after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:
   a. Requests for approval of submittals.
   b. Requests for approval of substitutions.
   c. Requests for coordination information already indicated in the Contract Documents.
   d. Requests for adjustments in the Contract Time or the Contract Sum.
   e. Requests for interpretation of Architect's actions on submittals.
   f. Incomplete RFIs or inaccurately prepared RFIs.

2. Engineer's action may include a request for additional information, in which case Engineer's time for response will date from time of receipt of additional information.

3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
   a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Project Manager in writing within 10 days of receipt of the RFI response.
E. On receipt of Engineer’s] action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Project Manager within 7 days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly with not less than the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Project Manager and Engineer
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Project Manager and Engineer’s response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate. Retain this article if Contractor is required to utilize or to provide and administer a Project Web site. Revise to suit Project.

1.8 PROJECT MEETINGS

A. General: Construction Manager will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Construction Manager, Project Manager, and Engineer, within 3 days of the meeting.

B. Preconstruction Conference: Project Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Construction Manager, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:
   a. Tentative construction schedule.
   b. Phasing.
c. Critical work sequencing and long-lead items.
d. Designation of key personnel and their duties.
e. Lines of communications.
f. Procedures for processing field decisions and Change Orders.
g. Procedures for RFI's.
h. Procedures for testing and inspecting.
i. Procedures for processing Applications for Payment.
j. Distribution of the Contract Documents.
k. Submittal procedures.
l. Sustainable design requirements.
m. Preparation of record documents.
n. Use of the premises and existing building.
o. Work restrictions.
p. Working hours.
q. Owner's occupancy requirements.
r. Responsibility for temporary facilities and controls.
s. Procedures for moisture and mold control.
t. Procedures for disruptions and shutdowns.
u. Construction waste management and recycling.
w. Parking availability.
x. Office, work, and storage areas.
y. Equipment deliveries and priorities.
z. First aid.
aaa. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting
minutes.

C. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time
convenient to Owner and Architect, but no later than 30 days prior to the scheduled date of
Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project
closeout.

2. Attendees: Authorized representatives of Owner, Construction Manager, Project
Manager, Engineer, and their consultants; Contractor and its superintendent; major
subcontractors; suppliers; and other concerned parties shall attend the meeting.
Participants at the meeting shall be familiar with Project and authorized to conclude
matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout,
including the following:

   a. Preparation of record documents.
   b. Procedures required prior to inspection for Substantial Completion and for final
      inspection for acceptance.
   c. Submittal of written warranties.
   d. Requirements for preparing sustainable design documentation.
   e. Requirements for preparing operations and maintenance data.
f. Requirements for demonstration and training.
g. Preparation of Contractor's punch list.
h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.
j. Coordination of separate contracts.
k. Owner's partial occupancy requirements.
l. Installation of Owner's furniture, fixtures, and equipment.
m. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

D. Progress Meetings: Conduct progress meetings at regular intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, Construction Manager, Project Manager, and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
   a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      1) Review schedule for next period.
   b. Review present and future needs of each entity present, including the following:
      1) Interface requirements.
      2) Sequence of operations.
      3) Status of submittals.
      4) Deliveries.
      5) Off-site fabrication.
      6) Access.
      7) Site utilization.
      8) Temporary facilities and controls.
      9) Progress cleaning.
     10) Quality and work standards.
     11) Status of correction of deficient items.
     12) Field observations.
     13) Status of RFIs.
     14) Status of proposal requests.
15) Pending changes.
16) Status of Change Orders.
17) Pending claims and disputes.
18) Documentation of information for payment requests.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Coordination Meetings: Conduct Project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner, Construction Manager, Project Manager, and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

c. Review present and future needs of each contractor present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100
SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Start-up construction schedule.
2. Contractor's construction schedule.
3. Daily construction reports.
4. Material location reports.
5. Field condition reports.
6. Special reports.

B. Related Sections:

1. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
2. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.
C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

E. Event: The starting or ending point of an activity.

F. Float: The measure of leeway in starting and completing an activity.
   1. Float time belongs to Owner.
   2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
   3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:
   1. PDF electronic file.
   2. Two paper copies.

B. Start-up construction schedule.
   1. Approval of cost-loaded start-up construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Start-up Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
   1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.
4. Earnings Report:Compilation of Contractor's total earnings from commencement of the Work until most recent Application for Payment.

F. Daily Construction Reports: Submit at weekly intervals.
G. Material Location Reports: Submit at weekly intervals.
H. Field Condition Reports: Submit at time of discovery of differing conditions.
I. Special Reports: Submit at time of unusual event.
J. Qualification Data: For scheduling consultant.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.

B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including phasing, work stages, area separations, interim milestones, and partial Owner occupancy.
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review time required for review of submittals and resubmittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for completion and startup procedures.
9. Review and finalize list of construction activities to be included in schedule.
10. Review submittal requirements and procedures.
11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
B. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR’S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Startup and Testing Time: Include not less than 15 days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Project Manager’s and Engineer’s administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not more than 30 days for punch list and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.

6. Work Restrictions: Show the effect of the following items on the schedule:
   a. Coordination with existing construction.
   b. Limitations of continued occupancies.
   c. Uninterruptible services.
   d. Partial occupancy before Substantial Completion.
   e. Use of premises restrictions.
   g. Seasonal variations.
   h. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Mockups.
   e. Fabrication.
   f. Sample testing.
   g. Deliveries.
   h. Installation.
   i. Tests and inspections.
   j. Adjusting.
   k. Curing.
   l. Startup and placement into final use and operation.

8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Completion of mechanical installation.
   b. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion

E. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

1. Refer to Division 01 Section "Payment Procedures" for cost reporting and payment procedures.
F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered RFIs.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.

G. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

H. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 START-UP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within 7 days of date established for commencement of the Work.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 30 days of date established for commencement of the Work. Base schedule on the start-up construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Start-up Network Diagram: Submit diagram within 14 days of date established for commencement of the Work. Outline significant construction activities for the first 90 days of
construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's construction schedule, time-scaled CPM network analysis diagram for the Work.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 60 days after date established for commencement of the Work.
   a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.

2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.

3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to correlate with Contract Time.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
   a. Preparation and processing of submittals.
   b. Mobilization and demobilization.
   c. Purchase of materials.
   d. Delivery.
   e. Fabrication.
   f. Utility interruptions.
   g. Installation.
   h. Work by Owner that may affect or be affected by Contractor's activities.
   i. Testing and commissioning.
   j. Punch list and final completion.
   k. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.

3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
   a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.

5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs under principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.
   a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
   b. Total cost assigned to activities shall equal the total Contract Sum.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
   1. Contractor or subcontractor and the Work or activity.
   2. Description of activity.
   3. Principal events of activity.
   4. Immediate preceding and succeeding activities.
   5. Early and late start dates.
   6. Early and late finish dates.
   7. Activity duration in workdays.
   8. Total float or slack time.
   10. Dollar value of activity (coordinated with the schedule of values).

G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
   1. Identification of activities that have changed.
   2. Changes in early and late start dates.
   3. Changes in early and late finish dates.
   5. Changes in the critical path.
   6. Changes in total float or slack time.

H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
   a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
   b. Submit value summary printouts one week before each regularly scheduled progress meeting.

2.5 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for
Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.6 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.

1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.

2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

3. As the Work progresses, indicate final completion percentage for each activity.

C. Distribution: Distribute copies of approved schedule to Project Manager, Engineer, and Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.

2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.
END OF SECTION 013200
SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections:
   1. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
   2. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer’s responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer’s responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.

C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.


1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing,
fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

   a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

   a. Scheduled date for first submittal.
   b. Specification Section number and title.
   c. Submittal category: Action, informational.
   d. Name of subcontractor.
   e. Description of the Work covered.
   f. Scheduled date for Project Manager’s final release or approval.
   g. Scheduled dates for purchasing.
   h. Scheduled dates for installation.
   i. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

1. Project Manager will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.

   a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
   c. Contractor shall execute a data licensing agreement.
   d. The following plot files will be furnished for each appropriate discipline:

      1) Floor plans.
      2) Reflected ceiling plans.
B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
   a. Engineer] the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer’s receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Project Manager will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 10 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 20 days for initial review of each submittal.

D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Engineer.
3. Include the following information for processing and recording action taken:
   a. Project name.
   b. Date.
   c. Name of Engineer.
   d. Name of Project Manager.
   e. Name of Contractor.
   f. Name of subcontractor.
   g. Name of supplier.
   h. Name of manufacturer.
   i. Submittal number or other unique identifier, including revision identifier.
1) Submittal number shall use Specification Section number followed by a
decimal point and then a sequential number (e.g., 061000.01). Resubmittals
shall include an alphabetic suffix after another decimal point (e.g.,
061000.01.A).

j. Number and title of appropriate Specification Section.
k. Drawing number and detail references, as appropriate.
l. Location(s) where product is to be installed, as appropriate.
m. Other necessary identification.

E. Identification and Information: Identify and incorporate information in each electronic
submittal file as follows:

1. Assemble complete submittal package into a single indexed file with links enabling
navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed
      by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals
      shall include an alphabetic suffix after another decimal point (e.g.,
      LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval
markings and action taken by Engineer.
4. Include the following information on an inserted cover sheet:
   a. Project name.
b. Date.
c. Name and address of Architect.
d. Name of Construction Manager.
e. Name of Contractor.
f. Name of firm or entity that prepared submittal.
g. Name of subcontractor.
h. Name of supplier.
i. Name of manufacturer.
j. Number and title of appropriate Specification Section.
k. Drawing number and detail references, as appropriate.
l. Location(s) where product is to be installed, as appropriate.
m. Related physical samples submitted directly.
n. Other necessary identification.

5. Include the following information as keywords in the electronic file metadata:
   a. Project name.
b. Number and title of appropriate Specification Section.
c. Manufacturer name.
d. Product name.

F. Options: Identify options requiring selection by the Architect.
G. Deviations: Identify deviations from the Contract Documents on submittals.

H. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Project Manager and Engineer.

I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will return submittals, without review, received from sources other than Project Manager.

1. Transmittal Form: Provide locations on form for the following information:
   a. Project name.
   b. Date.
   c. Destination (To:).
   d. Source (From:).
   e. Names of subcontractor, manufacturer, and supplier.
   f. Category and type of submittal.
   g. Submittal purpose and description.
   h. Specification Section number and title.
   i. Indication of full or partial submittal.
   j. Drawing number and detail references, as appropriate.
   k. Transmittal number, numbered consecutively.
   l. Submittal and transmittal distribution record.
   m. Remarks.
   n. Signature of transmitter.

2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Engineer’s action stamp.

K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
L. Use for Construction: Use only final submittals that are marked with approval notation from Engineer’s action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Action Submittals: Submit five paper copies of each submittal, unless otherwise indicated. Engineer will return four copies.
2. Informational Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Engineer will not return copies.
3. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
   a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
   b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

4. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
a. Wiring diagrams showing factory-installed wiring.
b. Printed performance curves.
c. Operational range diagrams.
d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.

6. Submit Product Data in the following format:
   a. PDF electronic file.
   b. Three paper copies of Product Data, unless otherwise indicated. Engineer, through Project Manager, will return two copies.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches. Retain subparagraph below unless default submittal format specified elsewhere in this article applies.

3. Submit Shop Drawings in the following format:
   a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   
a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   
a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer, through Project Manager, will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   
a. Number of Samples: Submit three sets of Samples. Engineer and Project Manager will retain two Sample sets; remainder will be returned.
      
1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
   
1. Type of product. Include unique identifier for each product indicated in the Contract Documents.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
   
a. PDF electronic file.
b. Three paper copies of product schedule or list, unless otherwise indicated. Engineer, through Project Manager, will return two copies.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Submit subcontract list in the following format:
   a. PDF electronic file.
   b. Number of Copies: Three paper copies of subcontractor list, unless otherwise indicated. Engineer, through Project Manager, will return two copies.

J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.


M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."

U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer and Project Manager.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER’S AND PROJECT MANAGER’S ACTION

A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. On advice of counsel, select appropriate terms for action stamp and insert term and explanation of each action taken in subparagraph below. See Evaluations.
D. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Project Manager will forward each submittal to appropriate party.

E. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.

F. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

G. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300
1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if
bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Name</th>
<th>Phone</th>
<th>Web Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Aluminum Association, Inc. (The)</td>
<td>(703) 358-2960</td>
<td><a href="http://www.aluminum.org">www.aluminum.org</a></td>
</tr>
<tr>
<td>AAADM</td>
<td>American Association of Automatic Door Manufacturers</td>
<td>(216) 241-7333</td>
<td><a href="http://www.aaadm.com">www.aaadm.com</a></td>
</tr>
<tr>
<td>AABC</td>
<td>Associated Air Balance Council</td>
<td>(202) 737-0202</td>
<td><a href="http://www.aabchq.com">www.aabchq.com</a></td>
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<tr>
<td>AAMA</td>
<td>American Architectural Manufacturers Association</td>
<td>(847) 303-5664</td>
<td><a href="http://www.aamanet.org">www.aamanet.org</a></td>
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<tr>
<td>AASHTO</td>
<td>American Association of State Highway and Transportation Officials</td>
<td>(202) 624-5800</td>
<td><a href="http://www.transportation.org">www.transportation.org</a></td>
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<tr>
<td>AATCC</td>
<td>American Association of Textile Chemists and Colorists</td>
<td>(919) 549-8141</td>
<td><a href="http://www.aatcc.org">www.aatcc.org</a></td>
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<tr>
<td>ABAA</td>
<td>Air Barrier Association of America</td>
<td>(866) 956-5888</td>
<td><a href="http://www.airbarrier.org">www.airbarrier.org</a></td>
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<tr>
<td>ABMA</td>
<td>American Bearing Manufacturers Association</td>
<td>(202) 367-1155</td>
<td></td>
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</table>
www.abma-dc.org

ACI American Concrete Institute www.concrete.org (248) 848-3700

ACPA American Concrete Pipe Association www.concrete-pipe.org (972) 506-7216

AEIC Association of Edison Illuminating Companies, Inc. (The) www.aeic.org (205) 257-2530

AF&PA American Forest & Paper Association www.afandpa.org (800) 878-8878 (202) 463-2700

AGA American Gas Association www.aga.org (202) 824-7000

AGC Associated General Contractors of America (The) www.agc.org (703) 548-3118

AHA American Hardboard Association (Now part of CPA)

AHAM Association of Home Appliance Manufacturers www.aham.org (202) 872-5955

AI Asphalt Institute www.asphaltinstitute.org (859) 288-4960

AIA American Institute of Architects (The) www.aia.org (800) 242-3837 (202) 626-7300

AISC American Institute of Steel Construction www.aisc.org (800) 644-2400 (312) 670-2400

AISI American Iron and Steel Institute www.steel.org (202) 452-7100

AITC American Institute of Timber Construction www.aite-glulam.org (303) 792-9559

ALCA Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)

ALSC American Lumber Standard Committee, Incorporated www.alsc.org (301) 972-1700

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<th>Organization</th>
<th>Description</th>
<th>Phone Number</th>
<th>Website</th>
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<td>ANSI</td>
<td>American National Standards Institute</td>
<td>(202) 293-8020</td>
<td><a href="http://www.ansi.org">www.ansi.org</a></td>
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<td>AOSA</td>
<td>Association of Official Seed Analysts, Inc.</td>
<td>(405) 780-7372</td>
<td><a href="http://www.aosaseed.com">www.aosaseed.com</a></td>
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<td>APA</td>
<td>Architectural Precast Association</td>
<td>(239) 454-6989</td>
<td><a href="http://www.archprecast.org">www.archprecast.org</a></td>
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<td>APA</td>
<td>APA - The Engineered Wood Association</td>
<td>(253) 565-6600</td>
<td><a href="http://www.apawood.org">www.apawood.org</a></td>
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<tr>
<td>APA EWS</td>
<td>APA - The Engineered Wood Association; Engineered Wood Systems</td>
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<tr>
<td>API</td>
<td>American Petroleum Institute</td>
<td>(202) 682-8000</td>
<td><a href="http://www.api.org">www.api.org</a></td>
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<td>ARI</td>
<td>Air-Conditioning &amp; Refrigeration Institute</td>
<td>(703) 524-8800</td>
<td><a href="http://www.ari.org">www.ari.org</a></td>
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<td>ARMA</td>
<td>Asphalt Roofing Manufacturers Association</td>
<td>(202) 207-0917</td>
<td><a href="http://www.asphaltroofing.org">www.asphaltroofing.org</a></td>
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<tr>
<td>ASCE</td>
<td>American Society of Civil Engineers</td>
<td>(800) 548-2723</td>
<td>(703) 295-6300</td>
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<td>ASCE/SEI</td>
<td>American Society of Civil Engineers/Structural Engineering Institute</td>
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<td>ASHRAE</td>
<td>American Society of Heating, Refrigerating and Air-Conditioning Engineers</td>
<td>(800) 527-4723</td>
<td>(404) 636-8400</td>
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<td>ASME</td>
<td>ASME International</td>
<td>(800) 843-2763</td>
<td>(973) 882-1170</td>
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<tr>
<td>ASSE</td>
<td>American Society of Sanitary Engineering</td>
<td>(440) 835-3040</td>
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<tr>
<td>AWCI</td>
<td>Association of the Wall and Ceiling Industry</td>
<td>(703) 534-8300</td>
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</table>
www.awci.org

AWCMA  American Window Covering Manufacturers Association
(Now WCMA)

AWI  Architectural Woodwork Institute
www.awinnet.org

AWPA  American Wood Protection Association
(Formerly: American Wood Preservers' Association)
www.awpa.com

AWS  American Welding Society
www.aws.org

AWWA  American Water Works Association
www.awwa.org

BHMA  Builders Hardware Manufacturers Association
www.buildershardware.com

BIA  Brick Industry Association (The)
www.bia.org

BICSI  BICSI, Inc.
www.bicsi.org

BIFMA  BIFMA International
(Business and Institutional Furniture Manufacturer's Association
International)
www.bifma.com

BISSC  Baking Industry Sanitation Standards Committee
www.bissc.org

BWF  Badminton World Federation
(Formerly: IBF - International Badminton Federation)
www.internationalbadminton.org

CCC  Carpet Cushion Council
www.carpetcushion.org

CDA  Copper Development Association
www.copper.org

CEA  Canadian Electricity Association
www.canelect.ca

CEA  Consumer Electronics Association
www.consumer-electronics.org

(866) 342-4772
(610) 527-3880
(800) 232-3282
(613) 230-9263
(866) 858-1555
REFERENCES

www.ce.org (703) 907-7600

CFFA Chemical Fabrics & Film Association, Inc. (216) 241-7333
www.chemicalfabricsandfilm.com

CGA Compressed Gas Association (703) 788-2700
www.cganet.com

CIMA Cellulose Insulation Manufacturers Association (888) 881-2462
www.cellulose.org (937) 222-2462

CISCA Ceilings & Interior Systems Construction Association (630) 584-1919
www.cisca.org

CISPI Cast Iron Soil Pipe Institute (423) 892-0137
www.cispi.org

CLFMI Chain Link Fence Manufacturers Institute (301) 596-2583
www.chainlinkinfo.org

CRRC Cool Roof Rating Council (866) 465-2523
www.coolroofs.org (510) 485-7175

CPA Composite Panel Association (301) 670-0604
www.pbmdf.com

CPPA Corrugated Polyethylene Pipe Association (800) 510-2772
www.cppa-info.org (202) 462-9607

CRI Carpet and Rug Institute (The) (800) 882-8846
www.carpet-rug.com (706) 278-3176

CRSI Concrete Reinforcing Steel Institute (847) 517-1200
www.crsi.org

CSA Canadian Standards Association (800) 463-6727
(416) 747-4000

CSA CSA International (Formerly: IAS - International Approval Services) (866) 797-4272
(416) 747-4000
www.csa-international.org

CSI Cast Stone Institute (717) 272-3744
www.caststone.org

CSI Construction Specifications Institute (The) (800) 689-2900
www.csinet.org (703) 684-0300

CSSB Cedar Shake & Shingle Bureau (604) 820-7700
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<th>Organization</th>
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<td><a href="http://www.cedarbureau.org">www.cedarbureau.org</a></td>
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<tr>
<td>CTI</td>
<td>Cooling Technology Institute</td>
<td>(281) 583-4087</td>
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<td></td>
<td>(Formerly: Cooling Tower Institute)</td>
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<td><a href="http://www.cti.org">www.cti.org</a></td>
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<td>DHI</td>
<td>Door and Hardware Institute</td>
<td>(703) 222-2010</td>
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<td><a href="http://www.dhi.org">www.dhi.org</a></td>
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<td>EIA</td>
<td>Electronic Industries Alliance</td>
<td>(703) 907-7500</td>
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<td><a href="http://www.eia.org">www.eia.org</a></td>
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<td>EIMA</td>
<td>EIFS Industry Members Association</td>
<td>(800) 294-3462</td>
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<td><a href="http://www.eima.com">www.eima.com</a></td>
<td>(770) 968-7945</td>
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<td>EJCDC</td>
<td>Engineers Joint Contract Documents Committee</td>
<td>(703) 295-5000</td>
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<td><a href="http://www.ejdc.org">www.ejdc.org</a></td>
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<td>EJMA</td>
<td>Expansion Joint Manufacturers Association, Inc.</td>
<td>(914) 332-0040</td>
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<td><a href="http://www.ejma.org">www.ejma.org</a></td>
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<td>ESD</td>
<td>ESD Association</td>
<td>(315) 339-6937</td>
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<td></td>
<td>(Electrostatic Discharge Association)</td>
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<td><a href="http://www.esda.org">www.esda.org</a></td>
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<td>ETL SEMCO</td>
<td>Intertek ETL SEMCO</td>
<td>(800) 967-5352</td>
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<td>(Formerly: ITS - Intertek Testing Service NA)</td>
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<td><a href="http://www.intertek.com">www.intertek.com</a></td>
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<td>FIBA</td>
<td>Federation Internationale de Basketball</td>
<td>41 22 545 00 00</td>
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<td></td>
<td>(The International Basketball Federation)</td>
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<td><a href="http://www.fiba.com">www.fiba.com</a></td>
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<td>FIVB</td>
<td>Federation Internationale de Volleyball</td>
<td>41 21 345 35 35</td>
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<td></td>
<td>(The International Volleyball Federation)</td>
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<td><a href="http://www.fivb.ch">www.fivb.ch</a></td>
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<tr>
<td>FM Approvals</td>
<td>FM Approvals LLC</td>
<td>(781) 762-4300</td>
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<td><a href="http://www.fmglobal.com">www.fmglobal.com</a></td>
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<tr>
<td>FM Global</td>
<td>FM Global</td>
<td>(401) 275-3000</td>
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<td>(Formerly: FMG - FM Global)</td>
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<td><a href="http://www.fmglobal.com">www.fmglobal.com</a></td>
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<td>FMRC</td>
<td>Factory Mutual Research</td>
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<td></td>
<td>(Now FM Global)</td>
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<td>FRSA</td>
<td>Florida Roofing, Sheet Metal &amp; Air Conditioning Contractors Association, Inc.</td>
<td>(407) 671-3772</td>
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<td>FSA</td>
<td><a href="http://www.fluidsealing.com">www.fluidsealing.com</a></td>
<td>(610) 971-4850</td>
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<td>FSC</td>
<td><a href="http://www.fsc.org">www.fsc.org</a></td>
<td>49 228 367 66 0</td>
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<td>GA</td>
<td><a href="http://www.gypsum.org">www.gypsum.org</a></td>
<td>(202) 289-5440</td>
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<td>GANA</td>
<td><a href="http://www.glasswebsite.com">www.glasswebsite.com</a></td>
<td>(785) 271-0208</td>
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<td>GRI</td>
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<td>GS</td>
<td><a href="http://www.greenseal.org">www.greenseal.org</a></td>
<td>(202) 872-6400</td>
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<td>GSI</td>
<td><a href="http://www.geosynthetic-institute.org">www.geosynthetic-institute.org</a></td>
<td>(610) 522-8440</td>
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<td>HI</td>
<td><a href="http://www.pumps.org">www.pumps.org</a></td>
<td>(973) 267-9700</td>
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<td>HI</td>
<td><a href="http://www.gamanet.org">www.gamanet.org</a></td>
<td>(908) 464-8200</td>
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<td>HMMA</td>
<td>Hollow Metal Manufacturers Association</td>
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<td>HPVA</td>
<td><a href="http://www.hpva.org">www.hpva.org</a></td>
<td>(703) 435-2900</td>
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<td>HPW</td>
<td><a href="http://www.hpwhite.com">www.hpwhite.com</a></td>
<td>(410) 838-6550</td>
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<td>IAS</td>
<td><a href="http://www.icri.org">www.icri.org</a></td>
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<td>IBF</td>
<td>International Badminton Federation</td>
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<td>(Now BWF)</td>
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<td>ICEA</td>
<td>Insulated Cable Engineers Association, Inc.</td>
<td>(770) 830-0369</td>
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<td>ICRI</td>
<td>International Concrete Repair Institute, Inc.</td>
<td>(847) 827-0830</td>
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<td>IEC</td>
<td>International Electrotechnical Commission</td>
<td><a href="http://www.iec.ch">www.iec.ch</a></td>
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<td>IEEE</td>
<td>Institute of Electrical and Electronics Engineers, Inc. (The)</td>
<td><a href="http://www.ieee.org">www.ieee.org</a></td>
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<td>IESNA</td>
<td>Illuminating Engineering Society of North America</td>
<td><a href="http://www.iesna.org">www.iesna.org</a></td>
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<td>IEST</td>
<td>Institute of Environmental Sciences and Technology</td>
<td><a href="http://www.iest.org">www.iest.org</a></td>
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<td>IGCC</td>
<td>Insulating Glass Certification Council</td>
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<td>IGMA</td>
<td>Insulating Glass Manufacturers Alliance</td>
<td><a href="http://www.igmaonline.org">www.igmaonline.org</a></td>
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<td>ILI</td>
<td>Indiana Limestone Institute of America, Inc.</td>
<td><a href="http://www.iliat.com">www.iliat.com</a></td>
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<td>ISO</td>
<td>International Organization for Standardization</td>
<td><a href="http://www.iso.ch">www.iso.ch</a></td>
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<td>Available from ANSI</td>
<td><a href="http://www.ansi.org">www.ansi.org</a></td>
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<td>ISSFA</td>
<td>International Solid Surface Fabricators Association</td>
<td><a href="http://www.issfa.net">www.issfa.net</a></td>
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<td>ITS</td>
<td>Intertek Testing Service NA</td>
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<td>ITU</td>
<td>International Telecommunication Union</td>
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<td>KCMA</td>
<td>Kitchen Cabinet Manufacturers Association</td>
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<td>LMA</td>
<td>Laminating Materials Association (Now part of CPA)</td>
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<td>LPI</td>
<td>Lightning Protection Institute</td>
<td><a href="http://www.lightning.org">www.lightning.org</a></td>
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<td>MBMA</td>
<td>Metal Building Manufacturers Association</td>
<td><a href="http://www.mbma.com">www.mbma.com</a></td>
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<td>MFMA</td>
<td>Maple Flooring Manufacturers Association, Inc.</td>
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MFMA  Metal Framing Manufacturers Association, Inc.  www.metalframingmfg.org  (312) 644-6610

MH  Material Handling
(Now MHIA)

MHIA  Material Handling Industry of America  www.mhia.org  (800) 345-1815
(704) 676-1190

MIA  Marble Institute of America  www.marble-institute.com  (440) 250-9222

MPI  Master Painters Institute  www.paintinfo.com  (888) 674-8937
(604) 298-7578

MSS  Manufacturers Standardization Society of The Valve and Fittings Industry Inc.  www.mss-hq.com  (703) 281-6613

NAAMM  National Association of Architectural Metal Manufacturers  www.naamm.org  (630) 942-6591

NACE  NACE International
(National Association of Corrosion Engineers International)  www.nace.org  (800) 797-6623
(281) 228-6200

NADCA  National Air Duct Cleaners Association  www.nadca.com  (202) 737-2926

NAGWS  National Association for Girls and Women in Sport  www.aahperd.org/nagws/  (800) 213-7193,
ext. 453

NAIMA  North American Insulation Manufacturers Association  www.naima.org  (703) 684-0084

NBGQA  National Building Granite Quarries Association, Inc.  www.nbgqa.com  (800) 557-2848

NCAA  National Collegiate Athletic Association (The)  www.ncaa.org  (317) 917-6222

NCMA  National Concrete Masonry Association  www.ncma.org  (703) 713-1900

NCPI  National Clay Pipe Institute  www.ncpi.org  (262) 248-9094
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<th>Reference</th>
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<td>NCTA</td>
<td>National Cable &amp; Telecommunications Association</td>
<td><a href="http://www.ncta.com">www.ncta.com</a></td>
<td>(202) 775-2300</td>
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<td>NEBB</td>
<td>National Environmental Balancing Bureau</td>
<td><a href="http://www.nebb.org">www.nebb.org</a></td>
<td>(301) 977-3698</td>
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<td>NECA</td>
<td>National Electrical Contractors Association</td>
<td><a href="http://www.necanet.org">www.necanet.org</a></td>
<td>(301) 657-3110</td>
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<td>NeLMA</td>
<td>Northeastern Lumber Manufacturers' Association</td>
<td><a href="http://www.nelma.org">www.nelma.org</a></td>
<td>(207) 829-6901</td>
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<td>NEMA</td>
<td>National Electrical Manufacturers Association</td>
<td><a href="http://www.nema.org">www.nema.org</a></td>
<td>(703) 841-3200</td>
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<td>NETA</td>
<td>InterNational Electrical Testing Association</td>
<td><a href="http://www.netaworld.org">www.netaworld.org</a></td>
<td>(888) 300-6382, (269) 488-6382</td>
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<td>NFHS</td>
<td>National Federation of State High School Associations</td>
<td><a href="http://www.nfhs.org">www.nfhs.org</a></td>
<td>(317) 972-6900</td>
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<td>NFPA</td>
<td>NFPA (National Fire Protection Association)</td>
<td><a href="http://www.nfpa.org">www.nfpa.org</a></td>
<td>(800) 344-3555, (617) 770-3000</td>
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<td>NFRC</td>
<td>National Fenestration Rating Council</td>
<td><a href="http://www.nfrc.org">www.nfrc.org</a></td>
<td>(301) 589-1776</td>
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<td>NGA</td>
<td>National Glass Association</td>
<td><a href="http://www.glass.org">www.glass.org</a></td>
<td>(866) 342-5642, (703) 442-4890</td>
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<td>NHLA</td>
<td>National Hardwood Lumber Association</td>
<td><a href="http://www.natlhardwood.org">www.natlhardwood.org</a></td>
<td>(800) 933-0318, (901) 377-1818</td>
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<td>NLGA</td>
<td>National Lumber Grades Authority</td>
<td><a href="http://www.nlga.org">www.nlga.org</a></td>
<td>(604) 524-2393</td>
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<td>NOFMA</td>
<td>NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)</td>
<td><a href="http://www.nofma.com">www.nofma.com</a></td>
<td>(901) 526-5016</td>
</tr>
<tr>
<td>NOMMA</td>
<td>National Ornamental &amp; Miscellaneous Metals Association</td>
<td><a href="http://www.nomma.org">www.nomma.org</a></td>
<td>(888) 516-8585</td>
</tr>
<tr>
<td>NRCA</td>
<td>National Roofing Contractors Association</td>
<td><a href="http://www.nrca.net">www.nrca.net</a></td>
<td>(800) 323-9545, (847) 299-9070</td>
</tr>
<tr>
<td>NRMCA</td>
<td>National Ready Mixed Concrete Association</td>
<td></td>
<td>(888) 846-7622</td>
</tr>
</tbody>
</table>
www.nrmca.org  (301) 587-1400

NSF  NSF International  (National Sanitation Foundation International)  (800) 673-6275
www.nsf.org  (734) 769-8010

NSSGA  National Stone, Sand & Gravel Association  (800) 342-1415
www.nssga.org  (703) 525-8788

NTMA  National Terrazzo & Mosaic Association, Inc. (The)  (800) 323-9736
www.ntma.com  (540) 751-0930

NTRMA  National Tile Roofing Manufacturers Association  (Now TRI)

NWWDA  National Wood Window and Door Association  (Now WDMA)

OPL  Omega Point Laboratories, Inc.  (Now ITS)

PCI  Precast/Prestressed Concrete Institute  (312) 786-0300
www pci.org

PDCA  Painting & Decorating Contractors of America  (800) 332-7322
www.pdca.com  (314) 514-7322

PDI  Plumbing & Drainage Institute  (800) 589-8956
www.pdionline.org  (978) 557-0720

PGI  PVC Geomembrane Institute  (217) 333-3929
http://pgi-tp.ce.uiuc.edu

PLANET  Professional Landcare Network  (800) 395-2522
(Formerly: ACLA - Associated Landscape Contractors of America)  (703) 736-9666
www.landcarenetwork.org

PTI  Post-Tensioning Institute  (602) 870-7540
www.post-tensioning.org

RCSC  Research Council on Structural Connections  www.boltcouncil.org

RFCl  Resilient Floor Covering Institute  (301) 340-8580
www.rfci.com

RIS  Redwood Inspection Service  (888) 225-7339
www.redwoodinspection.com  (415) 382-0662
<table>
<thead>
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<th>Acronym</th>
<th>Organization Name</th>
<th>Phone</th>
<th>Website</th>
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<tr>
<td>SAE</td>
<td>SAE International</td>
<td>(877) 606-7323</td>
<td><a href="http://www.sae.org">www.sae.org</a></td>
</tr>
<tr>
<td>SDI</td>
<td>Steel Deck Institute</td>
<td>(847) 458-4647</td>
<td><a href="http://www.sdi.org">www.sdi.org</a></td>
</tr>
<tr>
<td>SDI</td>
<td>Steel Door Institute</td>
<td>(440) 899-0010</td>
<td><a href="http://www.steeldoor.org">www.steeldoor.org</a></td>
</tr>
<tr>
<td>SEFA</td>
<td>Scientific Equipment and Furniture Association</td>
<td>(877) 294-5424</td>
<td><a href="http://www.sefalabs.com">www.sefalabs.com</a></td>
</tr>
<tr>
<td>SEI/ASCE</td>
<td>Structural Engineering Institute/American Society of Civil Engineers</td>
<td>(516) 294-5424</td>
<td>(See ASCE)</td>
</tr>
<tr>
<td>SGCC</td>
<td>Safety Glazing Certification Council</td>
<td>(315) 646-2234</td>
<td><a href="http://www.sgcc.org">www.sgcc.org</a></td>
</tr>
<tr>
<td>SIA</td>
<td>Security Industry Association</td>
<td>(866) 817-8888</td>
<td><a href="http://www.siaonline.org">www.siaonline.org</a></td>
</tr>
<tr>
<td>SIGMA</td>
<td>Sealed Insulating Glass Manufacturers Association</td>
<td>(703) 683-2075</td>
<td>(Now IGMA)</td>
</tr>
<tr>
<td>SJI</td>
<td>Steel Joist Institute</td>
<td>(843) 626-1995</td>
<td><a href="http://www.steeljoist.org">www.steeljoist.org</a></td>
</tr>
<tr>
<td>SMA</td>
<td>Screen Manufacturers Association</td>
<td>(561) 533-0991</td>
<td><a href="http://www.smacentral.org">www.smacentral.org</a></td>
</tr>
<tr>
<td>SMACNA</td>
<td>Sheet Metal and Air Conditioning Contractors' National Association</td>
<td>(703) 803-2980</td>
<td><a href="http://www.smacna.org">www.smacna.org</a></td>
</tr>
<tr>
<td>SMPTE</td>
<td>Society of Motion Picture and Television Engineers</td>
<td>(914) 761-1100</td>
<td><a href="http://www.smpte.org">www.smpte.org</a></td>
</tr>
<tr>
<td>SPFA</td>
<td>Spray Polyurethane Foam Alliance</td>
<td>(800) 523-6154</td>
<td>(Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)</td>
</tr>
<tr>
<td>SPIB</td>
<td>Southern Pine Inspection Bureau (The)</td>
<td>(850) 434-2611</td>
<td><a href="http://www.spib.org">www.spib.org</a></td>
</tr>
<tr>
<td>SPRI</td>
<td>Single Ply Roofing Industry</td>
<td>(781) 647-7026</td>
<td><a href="http://www.spri.org">www.spri.org</a></td>
</tr>
<tr>
<td>Organization</td>
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<tr>
<td>SSINA</td>
<td>Specialty Steel Industry of North America</td>
<td>(800) 982-0355</td>
<td><a href="http://www.ssina.com">www.ssina.com</a></td>
</tr>
<tr>
<td>SSPC</td>
<td>SSPC: The Society for Protective Coatings</td>
<td>(877) 281-7772</td>
<td><a href="http://www.sspc.org">www.sspc.org</a></td>
</tr>
<tr>
<td>STI</td>
<td>Steel Tank Institute</td>
<td>(847) 438-8265</td>
<td><a href="http://www.steeltank.com">www.steeltank.com</a></td>
</tr>
<tr>
<td>SWI</td>
<td>Steel Window Institute</td>
<td>(216) 241-7333</td>
<td><a href="http://www.steelwindows.com">www.steelwindows.com</a></td>
</tr>
<tr>
<td>SWRI</td>
<td>Sealant, Waterproofing, &amp; Restoration Institute</td>
<td>(816) 472-7974</td>
<td><a href="http://www.swrionline.org">www.swrionline.org</a></td>
</tr>
<tr>
<td>TCA</td>
<td>Tile Council of America, Inc. (Now TCNA)</td>
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<tr>
<td>TCNA</td>
<td>Tile Council of North America, Inc.</td>
<td>(864) 646-8453</td>
<td><a href="http://www.tileusa.com">www.tileusa.com</a></td>
</tr>
<tr>
<td>TIA/EIA</td>
<td>Telecommunications Industry Association/Electronic</td>
<td>(703) 907-7700</td>
<td></td>
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<tr>
<td></td>
<td>Industries Alliance</td>
<td></td>
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</tr>
<tr>
<td>TMS</td>
<td>The Masonry Society</td>
<td>(303) 939-9700</td>
<td><a href="http://www.masonrysociety.org">www.masonrysociety.org</a></td>
</tr>
<tr>
<td>TPI</td>
<td>Truss Plate Institute, Inc.</td>
<td>(703) 683-1010</td>
<td><a href="http://www.tpinst.org">www.tpinst.org</a></td>
</tr>
<tr>
<td>TPI</td>
<td>Turfgrass Producers International</td>
<td>(800) 405-8873</td>
<td><a href="http://www.turfgrasssod.org">www.turfgrasssod.org</a></td>
</tr>
<tr>
<td>TRI</td>
<td>Tile Roofing Institute</td>
<td>(312) 670-4177</td>
<td><a href="http://www.tileroofing.org">www.tileroofing.org</a></td>
</tr>
<tr>
<td>UL</td>
<td>Underwriters Laboratories Inc.</td>
<td>(877) 854-3577</td>
<td><a href="http://www.ul.com">www.ul.com</a></td>
</tr>
<tr>
<td>UNI</td>
<td>Uni-Bell PVC Pipe Association</td>
<td>(972) 243-3902</td>
<td><a href="http://www.uni-bell.org">www.uni-bell.org</a></td>
</tr>
<tr>
<td>USAV</td>
<td>USA Volleyball</td>
<td>(888) 786-5539</td>
<td><a href="http://www.usavolleyball.org">www.usavolleyball.org</a></td>
</tr>
<tr>
<td>USGBC</td>
<td>U.S. Green Building Council</td>
<td>(800) 795-1747</td>
<td><a href="http://www.usgbc.org">www.usgbc.org</a></td>
</tr>
<tr>
<td>Code</td>
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<tr>
<td>USITT</td>
<td>United States Institute for Theatre Technology, Inc.</td>
<td>(800) 938-7488</td>
<td><a href="http://www.usitt.org">www.usitt.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(315) 463-6463</td>
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<tr>
<td>WASTEC</td>
<td>Waste Equipment Technology Association</td>
<td>(800) 424-2869</td>
<td><a href="http://www.wastec.org">www.wastec.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(202) 244-4700</td>
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<tr>
<td>WCLIB</td>
<td>West Coast Lumber Inspection Bureau</td>
<td>(800) 283-1486</td>
<td><a href="http://www.wclib.org">www.wclib.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(503) 639-0651</td>
<td></td>
</tr>
<tr>
<td>WCMA</td>
<td>Window Covering Manufacturers Association</td>
<td>(212) 297-2122</td>
<td><a href="http://www.wcmanet.org">www.wcmanet.org</a></td>
</tr>
<tr>
<td>WCSC</td>
<td>Window Covering Safety Council</td>
<td>(800) 506-4636</td>
<td><a href="http://www.windowcoverings.org">www.windowcoverings.org</a></td>
</tr>
<tr>
<td></td>
<td>(Formerly: WCMA - Window Covering Manufacturers Association)</td>
<td>(212) 297-2109</td>
<td></td>
</tr>
<tr>
<td>WDMA</td>
<td>Window &amp; Door Manufacturers Association</td>
<td>(800) 223-2301</td>
<td><a href="http://www.wdma.com">www.wdma.com</a></td>
</tr>
<tr>
<td></td>
<td>(Formerly: NWWDA - National Wood Window and Door Association)</td>
<td>(847) 299-5200</td>
<td></td>
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<tr>
<td>WI</td>
<td>Woodwork Institute (Formerly: WIC - Woodwork Institute of California)</td>
<td>(916) 372-9943</td>
<td><a href="http://www.wicnet.org">www.wicnet.org</a></td>
</tr>
<tr>
<td>WIC</td>
<td>Woodwork Institute of California (Now WI)</td>
<td></td>
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<tr>
<td>WMMPA</td>
<td>Wood Moulding &amp; Millwork Producers Association</td>
<td>(800) 550-7889</td>
<td><a href="http://www.wmmpa.com">www.wmmpa.com</a></td>
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<td></td>
<td></td>
<td>(530) 661-9591</td>
<td></td>
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<tr>
<td>WSRCA</td>
<td>Western States Roofing Contractors Association</td>
<td>(800) 725-0333</td>
<td><a href="http://www.wsrca.com">www.wsrca.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(650) 570-5441</td>
<td></td>
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<tr>
<td>WWPA</td>
<td>Western Wood Products Association</td>
<td>(503) 224-3930</td>
<td><a href="http://www.wwpa.org">www.wwpa.org</a></td>
</tr>
</tbody>
</table>

**C. Code Agencies:** Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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<tr>
<th>Code</th>
<th>Name</th>
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<th>Web Site</th>
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<tbody>
<tr>
<td>IAPMO</td>
<td>International Association of Plumbing and Mechanical Officials</td>
<td>(909) 472-4100</td>
<td><a href="http://www.iapmo.org">www.iapmo.org</a></td>
</tr>
<tr>
<td>ICC</td>
<td>International Code Council</td>
<td>(888) 422-7233</td>
<td><a href="http://www.iccsafe.org">www.iccsafe.org</a></td>
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<tr>
<td>Acronym</td>
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<td></td>
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<td>(562) 699-0543</td>
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<tr>
<td>UBC</td>
<td>Uniform Building Code</td>
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D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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<th>Name</th>
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<th>Website</th>
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<tr>
<td>CE</td>
<td>Army Corps of Engineers</td>
<td>(202) 761-0011</td>
<td><a href="http://www.usace.army.mil">www.usace.army.mil</a></td>
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<td></td>
<td></td>
<td>(301) 504-7923</td>
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<tr>
<td>DOC</td>
<td>Department of Commerce</td>
<td>(202) 482-2000</td>
<td><a href="http://www.commerce.gov">www.commerce.gov</a></td>
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<tr>
<td>DOD</td>
<td>Department of Defense</td>
<td>(215) 697-6257</td>
<td><a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a></td>
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<td>DOE</td>
<td>Department of Energy</td>
<td>(202) 586-9220</td>
<td><a href="http://www.energy.gov">www.energy.gov</a></td>
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<td>EPA</td>
<td>Environmental Protection Agency</td>
<td>(202) 272-0167</td>
<td><a href="http://www.epa.gov">www.epa.gov</a></td>
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<tr>
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<td>FAA</td>
<td>Federal Aviation Administration</td>
<td>(866) 835-5322</td>
<td><a href="http://www.faa.gov">www.faa.gov</a></td>
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<tr>
<td>FCC</td>
<td>Federal Communications Commission</td>
<td>(888) 225-5322</td>
<td><a href="http://www.fcc.gov">www.fcc.gov</a></td>
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<tr>
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<tr>
<td>FDA</td>
<td>Food and Drug Administration</td>
<td>(888) 463-6332</td>
<td><a href="http://www.fda.gov">www.fda.gov</a></td>
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<tr>
<td>GSA</td>
<td>General Services Administration</td>
<td>(800) 488-3111</td>
<td><a href="http://www.gsa.gov">www.gsa.gov</a></td>
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<td>HUD</td>
<td>Department of Housing and Urban Development</td>
<td>(202) 708-1112</td>
<td><a href="http://www.hud.gov">www.hud.gov</a></td>
</tr>
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<tr>
<td>LBL</td>
<td>Lawrence Berkeley National Laboratory</td>
<td>(510) 486-4000</td>
<td><a href="http://www.lbl.gov">www.lbl.gov</a></td>
</tr>
<tr>
<td>NCHRP</td>
<td>National Cooperative Highway Research Program</td>
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</table>
(See TRB)

NIST National Institute of Standards and Technology  
www.nist.gov  
(301) 975-6478

OSHA Occupational Safety & Health Administration  
www.osha.gov  
(800) 321-6742  
(202) 693-1999

PBS Public Buildings Service  
(See GSA)

PHS Office of Public Health and Science  
www.osphs.dhhs.gov/ophs  
(202) 690-7694

RUS Rural Utilities Service  
(See USDA)  
(202) 720-9540

SD State Department  
www.state.gov  
(202) 647-4000

TRB Transportation Research Board  
http://gulliver.trb.org  
(202) 334-2934

USDA Department of Agriculture  
www.usda.gov  
(202) 720-2791

USPS Postal Service  
www.usps.com  
(202) 268-2000

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG Americans with Disabilities Act (ADA)  
(800) 872-2253

Architectural Barriers Act (ABA)  
(202) 272-0080

Accessibility Guidelines for Buildings and Facilities  
Available from U.S. Access Board  
www.access-board.gov

CFR Code of Federal Regulations  
(866) 512-1800  
(202) 512-1800

Available from Government Printing Office  
www.gpoaccess.gov/cfr/index.html

DOD Department of Defense Military Specifications and Standards  
(215) 697-2664

Available from Department of Defense Single Stock Point  
http://dodssp.daps.dla.mil

DSCC Defense Supply Center Columbus
FED-STD  Federal Standard  
(See FS)  

FS  Federal Specification  
Available from Department of Defense Single Stock Point  
http://dodssp.daps.dla.mil  

Available from Defense Standardization Program  
www.dps.dla.mil  

Available from General Services Administration  
www.gsa.gov  

Available from National Institute of Building Sciences  
www.wbdg.org/ccb  

FTMS  Federal Test Method Standard  
(See FS)  

MIL  (See MILSPEC)  

MIL-STD  (See MILSPEC)  

MILSPEC  Military Specification and Standards  
Available from Department of Defense Single Stock Point  
http://dodssp.daps.dla.mil  

UFAS  Uniform Federal Accessibility Standards  
Available from Access Board  
www.access-board.gov  

F.  State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.  

CBHF  State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation  
www.dca.ca.gov/bhfti  

CCR  California Code of Regulations  
www.calregs.com  

CPUC  California Public Utilities Commission  
www.cpuc.ca.gov  

TFS  Texas Forest Service  

Forest Resource Development
http://txforestservation.tamu.edu

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes procedural requirements for cutting and patching.

1.3 DEFINITIONS
A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS
A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.

2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.

3. Products: List products to be used and firms or entities that will perform the Work.

4. Dates: Indicate when cutting and patching will be performed.

5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.

7. Project Manager’s Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:

1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-suppression systems.
4. Mechanical systems piping and ducts.
5. Control systems.
6. Communication systems.
7. Conveying systems.
8. Electrical wiring systems.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:

1. Water, moisture, or vapor barriers.
2. Membranes and flashings.
3. Exterior curtain-wall construction.
4. Equipment supports.
5. Piping, ductwork, vessels, and equipment.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including fire protection trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.

2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

5. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.

   b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

   a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface.
containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329
SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for the following:
   1. Salvaging nonhazardous demolition and construction waste.
   2. Recycling nonhazardous demolition and construction waste.
   3. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE GOALS

A. Salvage/Recycle Goals: Owner's goal is to salvage and recycle as much nonhazardous demolition and construction waste as possible including the following materials:
1. Demolition Waste:
   a. Concrete.
   b. Wood studs.
   c. Wood joists.
   d. Plywood and oriented strand board.
   e. Wood paneling.
   f. Wood trim.
   g. Structural and miscellaneous steel.
   h. Rough hardware.
   i. Metal studs.
   j. Gypsum board.
   k. Acoustical tile and panels.
   l. Demountable partitions.
   m. Piping.
   n. Supports and hangers.
   o. Valves.
   p. Sprinklers.
   q. Electrical conduit.
   r. Copper wiring.

2. Construction Waste:
   a. Lumber.
   b. Wood sheet materials.
   c. Wood trim.
   d. Metals.
   e. Piping.
   f. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle
      100 percent of the following uncontaminated packaging materials:

      1) Paper.
      2) Cardboard.
      3) Boxes.
      4) Plastic sheet and film.
      5) Polystyrene packaging.
      7) Plastic pails.

1.5 SUBMITTALS

A. Waste Management Plan: Submit 3 copies of plan within 7 days of date established for
   commencement of the Work.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit 3 copies of
   calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste
   generated by the Work.

C. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and
   organizations. Indicate whether organization is tax exempt.
D. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

E. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.7 WASTE MANAGEMENT PLAN

A. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

B. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by Project Manager. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Owner's Use:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.
C. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.

4. Store components off the ground and protect from the weather.

5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

B. Metals: Separate metals by type.

1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

C. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

D. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

1. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.

E. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
3.5  RECYCLING CONSTRUCTION WASTE

A.  Packaging:
1.  Cardboard and Boxes:  Break down packaging into flat sheets.  Bundle and store in a dry location.
3.  Pallets:  As much as possible, require deliveries using pallets to remove pallets from Project site.  For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4.  Crates:  Break down crates into component wood pieces and comply with requirements for recycling wood.

B.  Gypsum Board:  Stack large clean pieces on wood pallets and store in a dry location.
1.  Clean Gypsum Board:  Grind scraps of clean gypsum board using small mobile chipper or hammer mill.  Screen out paper after grinding.
   a.  Comply with requirements in Division 32 Section "Plants." for use of clean ground gypsum board as inorganic soil amendment.

3.6  DISPOSAL OF WASTE

A.  General:  Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1.  Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.
2.  Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B.  Burning:  Do not burn waste materials.

C.  Disposal:  Transport waste materials and dispose of at designated spoil areas on Owner's property.

D.  Disposal:  Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 017419
SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.

B. Related Sections:

1. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
2. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer’s name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Manager will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Project Manager, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Submit certified copy of Project Manager's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Project Manager. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Manager will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. **Reinspection**: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 **LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

A. **Organization of List**: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
   a. Project name.
   b. Date.
   c. Name of Project Manager.
   d. Name of Contractor.
   e. Page number.

4. Submit list of incomplete items in the following format:
   a. PDF electronic file.
   b. Three paper copies of product schedule or list, unless otherwise indicated. Project Manager will return two copies.

1.6 **WARRANTIES**

A. **Submittal Time**: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. **Partial Occupancy**: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
   c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
   d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

g. Sweep concrete floors broom clean in unoccupied spaces.

h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.

j. Remove labels that are not permanent.

k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

l. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

m. Leave Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Construction Waste Management and Disposal."

END OF SECTION 017700
SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Sections include the following:

1. Division 01 Section "Closeout Procedures" for general closeout procedures.
2. Divisions 02 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set of marked-up Record Prints.
2. Number of Copies: Submit copies of Record Drawings as follows:
   a. Initial Submittal: Submit one set(s) of plots from corrected Record CAD Drawings and one set(s) of marked-up Record Prints. Project Manager will initial and date each plot and mark whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Project Manager will return plots and prints for organizing into sets, printing, binding, and final submittal.
   b. Final Submittal: Submit one set(s) of marked-up Record Prints, one set(s) of Record Transparencies, and three copies printed from Record Transparencies. Print each Drawing, whether or not changes and additional information were recorded.
   c. Final Submittal: Submit one set(s) of marked-up Record Prints, one set(s) of Record CAD Drawing files, one set(s) of Record CAD Drawing plots, and three
copies printed from record plots. Plot and print each Drawing, whether or not changes and additional information were recorded.

1) Electronic Media: CD-R.

B. Record Specifications: Submit one of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one of each Product Data submittal.

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

b. Accurately record information in an understandable drawing technique.

c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Revisions to routing of piping and conduits.
d. Revisions to electrical circuitry.
e. Changes made by Change Order or Construction Change Directive.
f. Changes made following Architect's written orders.
g. Details not on the original Contract Drawings.
h. Field records for variable and concealed conditions.
i. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.

6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Transparencies: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Project Manager and Construction Manager. When authorized, prepare a full set of corrected transparencies of the Contract Drawings and Shop Drawings.

1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.

2. Refer instances of uncertainty to Project Manager for resolution.

3. Owner will furnish Contractor one set of transparencies of the Contract Drawings for use in recording information.

4. Print the Contract Drawings and Shop Drawings for use as Record Transparencies. Architect will make the Contract Drawings available to Contractor's print shop.

C. Record CAD Drawings: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Project Manager and Construction Manager. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:

1. Format: Same CAD program, version, and operating system as the original Contract Drawings.

2. Format: DWG, operating in Microsoft Windows operating system.

3. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.

4. Refer instances of uncertainty to Project Manager for resolution.

5. Architect will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.

   a. Architect makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the Contract Drawings.

D. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.

2. Consult Project Manager for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
E. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.

3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.

4. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Project Manager.
   e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.

5. Note related Change Orders and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.

3. Note related Change Orders and Record Drawings where applicable.
2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Project Manager’s reference during normal working hours.

END OF SECTION 017839
SECTION 283111 - DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Fire-alarm control unit
2. Manual fire-alarm pull stations
3. System smoke detectors
4. Non-system smoke detectors
5. Heat detectors
6. Notification appliances
7. Magnetic door holders
8. Remote annunciator
9. Graphic annunciator
10. Addressable interface device
11. Digital alarm communicator transmitter

1.3 DEFINITIONS

A. Installing Contractor. All references to the Installing Contractor herein shall mean the vendor, supplier, organization, or individual that has contracted to supply goods and/or services to the Owner.

B. Engineer. All references to the “Engineer” herein shall mean Koffel Associates, Inc.

C. Authority Having Jurisdiction (AHJ). All references to the “Authority Having Jurisdiction” shall mean the Baltimore County Fire Marshal and University of Maryland Fire Protection Engineer.

D. Owner. All references to the “Owner” herein shall mean University of Maryland Baltimore County.

E. System Designer. The contractor’s representative who prepared the shop drawings and submittal booklets through applications engineering methods to comply with the contract documents. This person must be factory authorized and trained, and hold a current certificate from the manufacturer to perform such duties.
F. System Technician. The person who shall perform the system assembly, final panel connections, and system programming for the fire alarm system. This person must be factory authorized and trained, and hold a current certificate from the manufacturer to perform such duties.

G. System Installer. The person or persons involved with the installation of all fire alarm peripheral devices, raceways and conductors, and primary power to the fire alarm equipment. These persons (or company) shall be licensed and formally trained to perform this type of work.

H. LED. Light-emitting diode.

I. NICET. National Institute for Certification in Engineering Technologies.

1.4 SYSTEM DESCRIPTION

A. Non-coded, UL-certified, addressable system, with multiplexed signal transmission, dedicated to fire-alarm service only.

B. This specification is intended for use as a requirement document for the replacement of the existing fire alarm systems for UMBC Technology Center, 1450 South Rolling Road, Baltimore, MD 21227. The panels in the scope of work include those in the South Campus Main Building and Building H. Devices associated with a sprinkler riser in Building G shall be supervised by the new Building H panel.

C. The Installing Contractor shall provide project management and shall oversee the required subcontractors. If the term Contractor is utilized within this Specification then the term is applicable to the Installing Contractor and their designated subcontractor. The Installing contractor’s responsibilities include, but are not necessarily limited to, the following:

1. Update the generic design to include all vendor specific components, modules, panels, and devices.
2. Prepare final detailed shop drawings of the system.
3. Submit all shop drawings for approval by the Engineer and local Authorities Having Jurisdiction, including payment of any applicable permit fees, inspection fees, or taxes.
4. Furnish and install all system components described by the approved shop drawings.
5. Provide all final acceptance testing, certifications, and obtain necessary approvals from the Engineer and the Authorities Having Jurisdiction.
6. Provide all record documents, such as As-built submittals, operation and maintenance manuals, Central Station certificates, warranties, etc.
7. The Installing Contractor is responsible for obtaining approval of the installed system, and the individual components that comprise the system, by the Authority Having Jurisdiction.

D. The work shall be subject to the terms and conditions contained in the “Construction Contract”. All applicable taxes shall be included in Contractor’s base bids.

E. All work shall be performed in accordance with these specifications and contract drawings. No modifications to these design documents will be accepted without the expressed written
approval of the Owner and Engineers. It is the Contractor’s responsibility to document Owner’s approval of any such modifications prior to the execution of work.

F. It is intended that the work performed pursuant to these specifications be complete in every respect, resulting in a system installed entirely in accordance with the applicable codes, standards, manufacturer's recommendations and Underwriters Laboratories Inc. (UL) listings.

G. It is further intended that upon completion of this work, the Owner be provided with:

1. Complete information and drawings describing and depicting the entire system as installed, including all information necessary for maintaining, troubleshooting, and/or expanding the system at a future date.
2. Complete documentation of system testing, as required by NFPA 72.
3. Certification that the entire system has been inspected and tested, is installed entirely in accordance with the applicable codes, standards, manufacturer’s recommendations and UL listings, and is in proper working order. The Installing Contractor shall use “Fire Alarm System Record of Completion” as required by Section 4.5.2.1 of NFPA 72 – 2002 Edition. The Installing Contractor must obtain system acceptance from the Authority Having Jurisdiction.

H. Work Included:

1. Upgrade the existing fire alarm systems to include the following:
2. Remove Notifier 5050 and Kidde fire alarm control panels, located in Main Building Floor 1 Fire Control Room. Remove existing Notifier SFP-1024 panel in basement of Building H. Remove all peripheral devices associated with the fire alarm control panels, including but not limited to audio/visual notification devices, manual pull stations, smoke detectors, heat detectors, water-flow and valve supervisory switches, and graphic annunciator panels, unless indicated to remain on the contract drawings.
3. Replace all removed peripheral fire alarm devices, with like devices.
4. Provide new spot type smoke detectors, heat detectors, manual pull stations, HVAC duct-mounted smoke detectors, and related connections to existing sprinkler systems.
5. Provide fire alarm audible and visual notification appliances throughout the building. Occupant notification throughout the building shall be provided by visible and audible signals consisting of the distinctive three-pulse temporal pattern complying with ANSI S3.42.
6. Provide new LCD remote fire alarm annunciator panels.
7. Provide new graphic annunciator panel in Main Building Fire Alarm Control Room.
8. Provide new smoke management panel in Main Building Fire Alarm Control Room.
9. Remove, provide and install devices, equipment and wiring necessary to release the hold open devices on fire doors and shutdown HVAC air handling units.
10. During construction activities provide protection of smoke detectors per Part 3 of this Specification.
11. Test and adjust all new equipment and systems at the completion of the project.
12. Prepare and submit shop drawings, contractor record drawings and other submittals required herein.
13. The Installing Contractor shall obtain, secure, and pay for all permits, plan check approvals, and inspections necessary to perform the work. The Installing Contractor is
responsible for obtaining complete final system acceptance and approvals by the Authority Having Jurisdiction.

14. Repair all damage to finished surfaces (walls, ceilings, etc.) resulting from this work to their original condition and the Owner's satisfaction.

15. Coordinate all work with other Contractors and consultants working in the building.

16. Provide all power requirements for the power extender panels including battery back-ups, as specified.

17. As new equipment is installed, it shall be labeled “NOT IN SERVICE” until the new equipment is accepted.

1.5 UMBC TECHNOLOGY CENTER PROJECT MANAGER

A. All building contacts shall be directed to the Project Manager or designated facilities maintenance representative.

B. The Project Manager will issue all approvals and instructions required for this work. No other person may issue an approval or instructions to the Contractor without the written permission of the Project Manager. Acceptance of unauthorized oral approvals or instructions by the Contractor shall be entirely at the Contractor's risk and in no case shall such unauthorized or oral approvals or instructions constitute a contract or otherwise be binding upon the Owner.

1.6 WORKING CONDITIONS

A. It shall be the Contractor's responsibility to inspect the job site and become familiar with the conditions under which the work will be performed. Inspection of the building may be made by appointment with the Project Manager.

B. Existing drawings, which are in the possession of the Project Manager, will be made available to the Contractor by appointment. The Contractor shall be responsible for procuring these drawings and obtaining approvals by the local Building and Fire Departments if used as part of the final design documentation. It shall be the Contractor's responsibility to review the existing drawings for the purpose of preparing his bid. Copies of the existing drawings will be made available upon request. The Owner makes no warranty as to the accuracy of any drawings.

C. New fire alarm systems and devices shall be put into service as soon as they are functional. Once put into service, they shall not be removed from service without the Project Manager's written authorization.

D. The Installing Contractor is responsible for operating within and meeting the project phases assigned to this project. The Installing Contractor must obtain approval from the Project Manager prior to commencing work in a specific area. All work shall be performed with appropriate consideration to facility function requirements.

E. The Installing Contractor shall be responsible for prior coordination of all work and demolition with the Project Manager.
F. In return for progress payments, less retainage, made to the Installing Contractor by the Project Manager during the course of the work, the Owner shall assume title to all new systems, equipment, and devices as they are delivered to the job site, installed and put into service.

G. Assumption of title for new systems, equipment and devices by the Owner shall not imply acceptance of those systems, equipment and devices by the Project Manager nor shall it relieve the Installing Contractor from his obligation to meet all requirements of these Specifications.

H. The Owner reserves the right to make beneficial use of all new systems, equipment and devices, as those systems, equipment, and devices are put into service throughout the installation period. Such beneficial use shall not imply acceptance of those systems, equipment and devices by the Project Manager, nor shall it relieve the Installing Contractor from his obligation to meet all requirement of these Specifications.

I. The Contractors will be responsible for attending a post construction meeting and construction coordination meetings every other week with the Project Manager, and the Installing Contractor shall prepare the minutes of these meetings. The Project Manager will schedule construction coordination meetings. The frequency of required meetings may be decreased or increased, at the Project Manager's option, if warranted by the progress of the project.

1.7 PERFORMANCE REQUIREMENTS

A. Codes, Standards, Ordinances, and Permits

1. All work shall conform to the requirements of the applicable portions of the National Fire Protection Association (NFPA) Codes, Guides and Recommended Practices listed herein:

   a. Maryland State Fire Prevention Code
   c. Baltimore County Codes, 2006 Edition
   g. International Mechanical Code, 2006 Edition
   h. Final Rule of the Americans with Disabilities Act (ADA) - Public Law 101-336.

2. When the local jurisdiction enforces a previous edition of the referenced code or standard and a conflict exits, the most stringent requirement shall govern.

3. All work and materials shall conform to all Federal, State and local codes and regulations governing the installation, including the 2006 Edition of the International Building Code and the Maryland State Fire Prevention Fire Code, as modified or interpreted by the local Officials to permit use of current NFPA standards. All work must comply with any variances or interpretations obtained from the local Authority Having Jurisdiction (AHJ).

4. If there is a conflict between the referenced NFPA standards, federal, state or local codes, and this specification, it is the Contractor's responsibility to immediately bring the conflict to the attention of the Project Manager for resolution. NFPA standards shall supersede unless local codes are more stringent. Contractors shall not attempt to resolve
conflicts directly with the local authorities unless specifically authorized by the Project Manager.

5. All devices, systems, equipment and materials furnished and installed shall be new and listed by Underwriters Laboratories Inc. (UL) for their intended use. All equipment shall be installed in accordance with the manufacturer’s recommendations and the UL listing limitations. Listing requirements for fire alarm systems shall be met. The Installing Contractor shall provide evidence, with his submittal, of listings of all proposed equipment and combinations of equipment under a separate tab in his proposal.

6. All devices, systems, equipment and materials furnished and installed shall be of types or models approved and required by NFPA Standards or UL listing for use in systems and occupancies of this type, unless local Building and Fire Department requirements are more stringent/restrictive.

7. The Contractor shall be responsible for the filing of all documents, paying all fees and securing all permits, inspections and approvals necessary for completion of this work.

B. Contractor Qualifications

1. The System Designer shall be an approved engineer or engineering technicians certified by the National Institute for Certification in Engineering Technologies (NICET) as Level III.

2. The fire alarm system designer shall provide sufficient evidence that he/she is factory trained on the specific equipment provided, and holds a current training certificate from the fire alarm manufacturer.

3. The Installing Contractor shall be an approved distributor of fire alarm and detection systems selected for furnish and install services. The Installing Contractor is to provide a job site supervisor who is to be present on-site each day that work is actively in progress. This individual shall be the same person throughout the course of the project, unless a request is made in writing by the Project Manager.
   a. The Installing Contractor shall, on furnish and install projects, subcontract applicable work to approved electrical contractors or provide in-house electrical installation services provided these services are in compliance with any specific union agreements the Owner may honor.
   b. The Installing Contractor(s) shall:
      1) Hold all licenses and permits necessary to perform this work.
      2) Have at least five years of experience in the installation of systems of this type and be familiar with all applicable local, state and federal laws and regulations.
      3) Regularly engaged in the servicing, installation and testing of fire alarm and detection systems.
      4) Provide Union employees to install this work where required by any union agreements the Owner may honor.

4. The Installing Contractor shall be an approved distributor of fire alarm and detection systems selected for furnish and install services.

5. The Installing Contractor shall provide a system designer, system technician, and system installer(s).

6. The system provider shall attest by proof of signature on each shop drawing that the system design was prepared under their close supervision, and attest that the system design was checked for errors and omissions.
7. Installing Contractor shall have an established office within 50 miles of the project site. This office shall be factory authorized by the system manufacturer to provide all of the fire alarm system services and equipment for this project including equipment installation, service, programming, and system design.

1.8 SUBMITTALS

A. General

1. In their submittals, Contractors must clearly identify all areas and sections of this Specification where exceptions are taken or that which they are not capable of providing. They are to copy the specification clause(s) and provide an explanation underneath. Exceptions shall be a separate tab in their proposal.

2. The Installing Contractor shall provide five hard copies of the shop drawings, calculations, and equipment submittals. Provide one copy to the Project Manager and four copies to the Engineer for review. The Engineer shall review the shop drawings for compliance with the contract documents. The Engineer will document any design discrepancies and forward such to both the Project Manager. The Installing Contractor will make the required changes and resubmit until approved.

3. If submittals, upon review by the Project Manager, are found not to conform to the requirements of these specifications, the Installing Contractor shall be required to resubmit with modifications. Approval of the submittals by the Project Manager or Engineer shall, in no case, relieve the Installing Contractor of his responsibility to meet the requirements of this Specification.

4. After approval by the Project Manager and Engineer, the contractor can submit to the AHJ.

5. After approval by the Project Engineer and AHJ, equipment can be ordered.

B. Permits, Licenses, and Certificates

1. Prior to start of installation, the Contractor shall obtain and submit copies of all permits, licenses, certificates and approvals necessary to conduct this work.

C. Subcontractors

1. The Contractor shall submit with his bid, a list of all proposed in-house installers or subcontractors. All proposed subcontractors are subject to the approval of the Owner.

D. Work Schedule

1. The Contractors are responsible for starting and completing work in accordance with the construction schedule established for the project. The Contractors shall contact the Owner’s Project Manager for the project timetable. The Contractors shall submit with their bids a proposed work schedule and representative chart. This schedule shall indicate the time necessary for:

   a. Completion date of vendor specific shop drawings.
   b. Equipment ship date.
c. Installation completion dates. The completion dates must be in accordance with the overall project phasing.
d. Dates of acceptance testing.
e. Dates of training sessions.
f. Final filings and payments date.
g. Final completion date.

2. The proposed work schedule will be reviewed and finalized during the pre-construction meetings and will be updated at each weekly construction coordination meeting.

E. Samples

1. When requested by the Project Manager, the Contractor shall submit samples of all proposed alarm initiating devices, audio/visual notification devices, wire, cable and labels to the Owner’s Project Manager for examination and approval.

F. Equipment Submittals:

1. The Installing Contractor shall submit a detailed equipment list (bill of materials) identifying manufacturer, model number, and quantity of all materials, devices and equipment proposed. This submittal shall include manufacturer’s data sheets for all equipment, devices, material and wire proposed. Evidence of equipment listing shall be included in all manufacturer’s data sheets.
2. When a data sheet shows more than one configuration for a product, the proposed configuration shall be clearly indicated by arrows, clouding, highlighting, or other suitable means.
3. Standby battery capacity calculations. Battery calculations shall list the type of devices and modules, quantities, unit raw for quiescent and alarm conditions, and battery amp/hour rating. For design criteria, the calculated load shall be the design load, including spare capacity. In addition, the battery capacity used to meet the calculated load shall be a maximum of 80 percent of the amp/hour rating designated by the manufacturer.
4. Voltage drop calculations shall list the percentage drop for compliance with the local authorities’ requirements.
5. A complete address list identifying each initiating device, and the specific alpha-numeric custom message to be displayed on LCD annunciators.
6. Provide, in chart form, the total current draw for each notification appliance circuit. A separate chart shall be provided for each control panel or power extender serving fire alarm notification appliances and circuits. The chart shall identify unique panel designation, number of circuits available, number of circuits used, quantity of each specific device used per circuit, current draw of each specific device, the total load in amps for each circuit, and maximum load in amps permitted on each circuit. Spare capacity for notification appliance circuits shall be provided as described by Section 2.1 of this Specification.
7. All equipment submittals shall be provided in three-ring binder. Individual sections (bill of materials, data sheets, calculations, contractor qualifications, etc.) shall be separated by tabbed dividers. A cover sheet shall be provided for the front of the binder that indicates the project name, project address, contractors name, address, and telephone number.

G. Shop Drawings
1. All generic design drawings for this contract shall be submitted in AutoCAD Release Version 2006 on compact disc by the Project Manager.

2. Once the bid process has been completed and authorization to proceed obtained, the selected Installing Contractor will update the generic design drawings with their specific equipment designations and configurations and return these shop drawings to the Project Manager on compact disc (AutoCAD 2006). The Installing Contractor shall ensure the shop drawings submitted meet the requirements below.

   a. The shop drawings shall consist of the following:
      
      (i) A drawing legend sheet identifying:
         
         (a) All symbols used on the drawings, by type of device or equipment, manufacturer, and manufacturer’s part number. This information shall correspond to the manufacturer’s catalog data sheets required elsewhere in this section. In addition, all symbols shall appear on all layouts and/or plan drawings.
         
         (b) All conventions, abbreviations and specialized terminology used on the drawings, as necessary to understand and interpret the information contained therein.
         
         (c) All color codes and conduit, conductor/circuit and device numbering systems.
         
         (d) A complete drawing list/index identifying all drawings in the shop drawing package by title, drawing number and Specification cross-reference.
         
      (ii) Clean architectural floor plans drawn to scale and a system riser diagram with a title block shall be used on each applicable drawing. Floor plan drawings required for this submittal shall be generated using the Engineer’s drawings as background, when available. Drawings will be provided by the Project Manager, as available, in AutoCAD Release 2006 format.
         
      (a) The floor plan drawings shall indicate:
         
         (i) Location of all devices, equipment, risers and electrical power connections. Addressable systems shall indicate device addresses for all addressable components shown in each drawing.
         
         (ii) Number, size, and type of conductors and conduit.
         
         (iii) Point-to-point wiring connections showing individual circuits and circuit/conduit routing. This information shall be depicted in sufficient detail to readily locate specific conduits, raceways and circuits in the field and to identify the specific conductors/circuits contained therein. All penetrations of fire-rated barriers shall be individually noted. French curve routing is not acceptable for depicting new conduits, raceways and circuits, or for depicting existing conduits, raceways and circuits whose detailed routing can be determined without demolition of existing construction. Routing of existing conduits, whose detailed routing cannot be determined in the field, without demolition of existing construction, shall be depicted using French curves. All reused conduits shall be noted “existing”. Plenum cable shall be routed in such a way as to maximize natural protection.
         
         (iv) Typical wiring diagrams for all alarm initiating devices and notifica-
tion appliances, showing the size and type of conductors, wiring termination and terminal identifications.

(v) Conduit fill calculations, in chart form, indicating the cross-section area percent fill for each type of wire/cable in each size of conduit used in the system. A maximum of 40 percent fill is allowed.

(b) The riser diagram shall indicate:
   (i) Number, size, and type of riser conduits/raceways.
   (ii) Number, size, and type of conductors in each riser.
   (iii) Number of each type of device on each circuit on each floor.

(iii) Detailed wiring diagrams for all alarm control panels, control panel modules, power supplies, electrical power connections, auxiliary function relays and solenoids, remote signaling equipment, and annunciators, identifying all required terminations. All unsupervised connections and terminations shall be noted “unsupervised”.

(a) These diagrams shall depict and identify all circuit boards, modules, power supplies, standby batteries, wiring harnesses, terminal strips and connections thereto, including spare zones and circuits. Where multiple components of a similar type are provided, each shall be identified by a unique component number.

(b) These diagrams shall include front-view details of all control panels and annunciators, depicting and identifying all indicators, controls and zone labels, including proposed nomenclature.

(c) These diagrams shall depict the required information to relative scale, actual size or larger, showing proper spatial relationships between components, and shall reflect the corresponding system components as they are to be installed.

(d) A Cause and Effects Matrix defining the system operation. This matrix shall cross-reference each signal-initiating zone to its corresponding annunciator zones, notification-signaling zones, remote signaling zones, and auxiliary function zones, and indicate system operation in the event of each type of trouble conditions recognized by the system.

(iv) Each drawing shall be cross-referenced to all related drawings and specific drawing details as necessary for the submittal as a whole to clearly depict the proposed installation. Each drawing shall depict the proposed installation. Each drawing shall show revision number and date indicated in the title block.

(v) The Installing Contractor will not be authorized to start any phase of installation until all of the shop drawings and data sheets related to that phase are received, reviewed and approved in writing by the Project Manager.

H. Contractor Record (As-Built) Drawings:

1. The Installing Contractor shall maintain on the site an up-to-date record set of approved shop drawing prints which shall be marked to show each and every change made to the fire alarm system from the original approved shop drawings. This shall not be construed as authorization to deviate from or make changes to the shop drawings approved by the Project Manager without written instruction from the Project Manager in each case. The Engineer shall review all proposed design changes. This set of drawings shall be used only as a record set. These drawings shall be made available to the Project Manager upon request.
2. Upon completion of the work (within two weeks) the record (as-built) set of prints shall be used by the Installing Contractor to prepare complete, accurate final record drawings reflecting any and all changes and deviations made to the fire alarm system. “Red-lined” shop drawings are not acceptable.

3. Upon completion of the work, the Installing Contractor shall submit two sets of updated record drawings to the Project Manager for review and approval.

4. After review and approval, the Installing Contractor shall provide contractor record drawings on compact disc in AutoCAD format to the Project Manager. A set of record drawings shall be given to the property manager.

5. The contractor record drawings are required to show and to identify quantities of junction boxes, spare conductors, color-coding of conductors, splices, device backboxes, and terminal strips. These drawings shall include a schedule of all connections/terminations, indexed by junction box, device backbox and terminal strip, and shall reference wire identification taped numbers as installed.

6. Floor zone maps in approved frames must be provided by the Installing Contractor and be permanently mounted at each alphanumeric annunciator. These must also be provided on a compact diskette in AutoCAD format.

I. The Installing Contractor shall provide all equipment submittals, shop drawings, and As-Built record drawings to the Project Manager for distribution to the Engineer.

1. The Engineer shall review the drawings and provide written comments, where appropriate. The Installing Contractor shall make required corrections to the submittals and forward revised documentation to the Project Manager for distribution to the Engineer.

2. The Installing Contractor shall provide a point-by-point written response to all comments generated by the Engineer, including a description of corrective action taken.

3. A total of three reviews shall be performed by the Engineer, two for the shop drawings/equipment submittals and one for the As-Built record drawings. If additional reviews are required in order to approve the Installing Contractor’s submittals, the Installing Contractor shall pay for the Engineer’s additional time at a rate of $140 per hour. The cost for such additional reviews shall be deducted from the Installing Contractor’s final bid price by the Owner.

J. Operation and Maintenance Manual:

1. The Installing Contractor shall provide the Project Manager with two three ring binders containing:
   a. A detailed narrative description of the system architecture, inputs, notification signaling, auxiliary functions, annunciation, intended sequence of operations, expansion capability, application considerations, and limitations.
   b. A detailed description of the system, including operator responses. The approved sequence of operation shall be placed in, or adjacent to, the operator’s control panel.
   c. A detailed description of routine maintenance required or recommended or as would be provided under a maintenance contract including a testing and maintenance schedule and detailed testing and maintenance instructions for each type of device installed.
d. Manufacturers’ data sheets and installation manuals/instructions for all equipment installed with detailed troubleshooting instructions for each specific type of trouble condition recognized by the system, including opens, grounds, parity errors, “loop failures”, etc. These instructions shall include a list of all trouble signals annunciated by the system, a description of the conditions which will cause those trouble signals, and step-by-step instructions describing how to isolate those problems and correct them (or call for service, as appropriate).

e. A list of the provided and recommended spare parts.

f. Service directory, which includes the main 24-hour emergency service number and at least three alternate numbers, which are monitored on a 24-hour basis.

g. Small scale (11 inches by 17 inches) contractor record drawings of the system.

K. Test Record

1. System certification and documentation of system testing shall be submitted by the Contractor to the Owner’s Project Manager for review and approval at least 14 days prior to the final acceptance test.

L. Software Documentation

1. Documentation of Software Modifications by the Contractor shall include:

   a. A complete printout of the system program prior to the change.

   b. A complete printout of the system program subsequent to the change, with all modifications highlighted.

   c. A letter prepared and signed by the individual who made the changes, describing each change made and the reason for that change. This letter shall certify that the preparer has personally reviewed and compared the before and after program printout and verified the correctness of the modification(s).

   d. An equivalent means performed automatically in computer software, which verifies the results of changes made, is acceptable.

2. A copy of all software documentation required by this section shall be maintained on-site by the Contractor, in a binder, arranged in chronological order. This binder shall be turned over to the Owner’s Project Manager at the completion of the project.

3. Once the fire alarm systems are put into service, in whole or in part, and the associated building(s) partially or wholly occupied, no software changes shall be performed without the prior written permission of the Owner’s Project Manager or the designated maintenance representative.

4. All software changes to the fire alarm system, once it is in service, shall be performed by a certified manufacturer's representative, trained in the execution of such changes. A complete printout of the system program changes shall be provided.

5. Each revision to the software shall be identified by a unique version number and date.

M. System Program Pre-Testing

1. All fire alarm control equipment shall be assembled, connected-interconnected in the manner in which it will be installed in the building, powered, and pre-tested by the Contractor for a minimum of 30 days, prior to installation. This period shall be used by the Contractor to prepare and test the system software. A letter from the Contractor
certifying successful completion of the required program pre-testing shall be supplied to the Owner’s Project Manager.

2. At least one total reprogramming shall be included by the Contractor in his contract after project completion.

1.9 QUALITY ASSURANCE

A. Personnel shall be trained and certified by manufacturer for installation of units required for this Project.

B. Installation shall be supervised by personnel certified by NICET as fire-alarm Level IV technician.

C. Obtain fire-alarm system from single source from single manufacturer.

D. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

E. Obtain certification according to NFPA 72 by a Nationally Recognized Testing Laboratory (NRTL).

1.10 WARRANTY

A. Warranty Period

1. The Installing Contractor shall warranty all materials and workmanship during the installation period and for a period of two years, beginning with the date of final acceptance by the Owner. The Installing Contractor shall be responsible during the installation, testing and warranty periods for any damage caused by him or his subcontractors or by defects in his or his subcontractors' work, materials or equipment.

2. During the warranty period, the Installing Contractor shall inspect and test the entire fire alarm system in conformance with NFPA 72 - 2002. The warranty period shall include the first two annual inspections, calibration, test and resolution of defects.

3. Guarantee all new equipment and systems for two years after final acceptance of the system by the Owner and the local Fire Department.

4. Provide testing of all devices, and repair as necessary, during the warranty period up to and including the first two annual tests, as required by NFPA 72 – 2002 Edition, as a minimum and as local code or regulations may require.

B. Emergency Service

1. The Installing Contractor shall provide emergency repair service for the system, at no cost to the Owner, within four hours of a request for such service by the Project Manager during both the installation and the warranty periods. This service shall be provided on a 24-hour per day, seven days per week basis.

C. Spurious Alarms
1. If the Owner experiences an unacceptable number of spurious or unexplained false alarms or other system malfunctions during the installation and warranty periods, the Installing Contractor shall be responsible for providing the necessary labor, material and technical expertise to correct the problem to the satisfaction of the Owner. This does not include unwanted alarms occurring as a result of work-in-progress; such unwanted alarms must be identified as being caused by work-in-progress.

2. The following number of spurious alarms, calculated as a ratio of false alarms to number of initiation devices, shall be considered unacceptable:

   a. Automatic (system connected) smoke detectors - More than two spurious alarms per 100 detectors per six months during the system warranty period. If this number is calculated to be less than two, two spurious alarms shall be considered unacceptable. Any calculated number shall be rounded up.

3. Any spurious alarm or improper system operation shall be considered unacceptable for or caused by the following types of equipment:

   a. Addressable monitor or control modules,
   b. Manual pull stations,
   c. Sprinkler water-flow switches,
   d. System type smoke detectors,
   e. Duct smoke detectors,
   f. Heat detectors,
   g. Tamper switches,
   h. Commercial kitchen suppression system.

1.11 PROJECT CONDITIONS

A. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:

1. Notify Owner no fewer than two days in advance of proposed interruption of fire-alarm service.

2. Do not proceed with interruption of fire-alarm service without Owner's written permission.

1.12 SEQUENCING AND SCHEDULING

A. Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. As new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service and label existing fire-alarm equipment "NOT IN SERVICE" until removed from the building.

B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.
1.13 SOFTWARE SERVICE AGREEMENT


B. Technical Support: Beginning with Substantial Completion, provide software support for two years.

C. Upgrade Service: Update software to latest version at Project completion. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system. Upgrade shall include new or revised licenses for use of software.

1. Provide 30 days' notice to Owner to allow scheduling and access to system and to allow Owner to upgrade computer equipment if necessary.

1.14 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Revise subparagraphs below to suit Project.
2. Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than 1 unit.
3. Lamps for Strobe Units: Quantity equal to 10 percent of amount installed.
4. Smoke Detectors and Fire Detectors: Quantity equal to 10 percent of amount of each type installed.
5. Detector Bases: Quantity equal to 2 percent of amount of each type installed, but no fewer than 1 unit of each type.
6. Keys and Tools: One extra set for access to locked and tamperproof components.
7. Audible and Visual Notification Appliances: One of each type installed.
8. Fuses: Two of each type installed in the system.

1.15 TRAINING

A. Timing

1. The Installing Contractor shall conduct a training session of at least two (2) hours to educate the Owner’s representative and personnel of the Authority Having Jurisdiction with the features, operation, and maintenance of the new systems. Training sessions shall be scheduled with the Owner and the Authority Having Jurisdiction at a time mutually agreeable to the Contractor, the Owner, and the Authority Having Jurisdiction.

2. The Installing Contractor shall submit a proposed training agenda for the Project Manager's review within 30 days of authorization to proceed. The final, approved training agenda shall be submitted 14 days prior to the final system acceptance test.

B. Agenda
1. Training by the Installing Contractor shall include all system operational functions needed by building personnel and personnel of the Authority Having Jurisdiction. This shall include, but will not be limited to:

   a. Alarm acknowledgment.
   b. Interpretation of the scheme used to provide identifiers.
   c. System reset.
   d. Basic troubleshooting.

1.16 SPECIAL TOOLS

A. The Installing Contractor shall supply to the Owner’s maintenance personnel, as part of the contract, three (3) complete sets of any special tools or keys necessary for normal operation and maintenance of the system.

1.17 FINAL APPROVAL AND ACCEPTANCE

A. Final approval and acceptance of the work will be given by the Project Manager and Engineer to the Installing Contractor when:

   1. The complete system has been inspected, tested and approved in writing by Project and Maintenance Managers and the Authority Having Jurisdiction, including local Building and Fire Departments.
   2. All required submittals, including system operation and maintenance manuals, contractor record drawings, test reports, spare parts, special tools and training have been provided to, reviewed by, and accepted in writing by the Project Manager.
   3. All system software changes stored in RAM have been transferred into permanent memory, and verified in writing, by the Installing Contractor.
PART 2 - PRODUCTS

2.1 GENERAL

A. The system shall utilize the analog point-addressable, multiplex technology providing a discrete system "address" for each individual initiating device.

B. All equipment and system components furnished and installed shall be new and listed by UL for their intended use. The equipment and system components shall be installed in accordance with the applicable codes and standards, the manufacturer's recommendations and within the limitations of the UL listings. All equipment and system components shall be the standard product of a single manufacturer. Evidence of UL listing is required.

C. System components shall be modular in design to ensure future expansion capability of the system. Spare capacity shall pertain to quantities of devices, circuits, power supplies, amplifiers, conductor capacities (size) and lengths.

D. The System shall be capable of expansion to a 25 percent increase in the number of notification appliances and circuits.

E. Electromagnetic Interference

1. All fire alarm control equipment, devices and wiring shall be protected against unwanted radiated electromagnetic interference (EMI) and radio frequency interference (RFI), which can interfere with normal system processing and possibly cause unwanted alarms.

2. The system shall be designed and installed to be unaffected by the operation of a hand-held portable radio (walkie-talkie) of 5 watts power generating capability, or cellular telephone, within 12 inches of any system device with all appropriate covers installed.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell; a Honeywell company
2. NOTIFIER; a Honeywell company
3. Siemens Building Technologies, Inc.; Fire Safety Division
4. SimplexGrinnell LP; a Tyco International company
5. Owner-approved equivalent

2.3 SYSTEMS OPERATIONAL DESCRIPTION

A. Fire-alarm signal initiation shall be by one or more of the following devices and systems:

1. Manual stations
2. Heat detectors
3. Smoke detectors
4. Verified automatic alarm operation of smoke detectors
5. Automatic sprinkler system water flow
6. Heat detectors in elevator shaft and pit
7. Commercial kitchen suppression system
8. Commercial fire alarm control sub-panels

B. Fire-alarm signal shall initiate the following actions:

1. Continuously operate alarm notification appliances
2. Identify alarm at fire-alarm control unit and remote annunciators
3. Transmit an alarm signal to the remote alarm receiving station
4. Unlock electric door locks in designated egress paths
5. Release fire and smoke doors held open by magnetic door holders
6. Activate occupant notification appliances
7. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode
8. Activate smoke-control system (smoke management) at firefighter smoke-control system panel
9. Recall elevators to primary or alternate recall floors
10. Record events in the system memory
11. Record events by the system printer

C. Supervisory signal initiation shall be by one or more of the following devices and actions:

1. Duct smoke detection
2. Valve supervisory switch
3. High/Low-air-pressure switch of a dry-pipe sprinkler system
4. Generator running

D. System trouble signal initiation shall be by one or more of the following devices and actions:

1. Open circuits, shorts, and grounds in designated circuits
2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices
3. Loss of primary power at fire-alarm control unit
4. Ground or a single break in fire-alarm control unit internal circuits
5. Abnormal ac voltage at fire-alarm control unit
6. Break in standby battery circuitry
7. Failure of battery charging
8. Abnormal position of any switch at fire-alarm control unit or annunciator

E. System Trouble and Supervisory Signal Actions: Initiate notification appliance and annunciate at fire-alarm control unit and remote annunciators. Record the event on system printer.

F. Operator Acknowledgement Signals

1. Silencing of integral audible devices required by this specification shall be recognized and annunciated by the system as operator acknowledgement of the signal(s) displayed.
The audible alarm shall be transferred to a continuously illuminated visible device integral to the panel or display, until the cause of the signal has been cleared.

2.4 FIRE-ALARM CONTROL UNIT

A. Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, complying with UL 864 and listed and labeled by an NRTL.

1. System software and programs shall be held in flash electrically erasable programmable read-only memory (EEPROM), retaining the information through failure of primary and secondary power supplies.
2. Include a real-time clock for time annotation of events on the event recorder and printer.

B. Addressable initiation devices that communicate device identity and status.

1. Smoke sensors shall additionally communicate sensitivity setting and allow for adjustment of sensitivity at fire-alarm control unit.
2. Temperature sensors shall additionally test for and communicate the sensitivity range of the device.
3. Addressable control circuits for operation of mechanical equipment.
4. The fire alarm system panel shall be analog addressable type.
5. The fire alarm system shall be capable of being expanded to accommodate up to 50,000 addressable devices without having to replace any system equipment.
6. The fire alarm panel shall be network-able, and be capable of being expanded to accommodate up to 50 nodes without having to replace any system equipment.
7. The control panel and related fire alarm equipment shall be the product of a single manufacturer.
8. Provide written evidence from the manufacturer that all parts and components for the proposed system shall be available as “new” for a minimum of five years.
9. Provide written evidence from the manufacturer that system repairs for all parts and components for the proposed system shall be available for a minimum of 10 years.
10. The control panel shall provide the inherent ability for all SLC’s to continue to function in degrade mode should the CPU fail.
11. The control panel shall be capable of expanding to accommodate a minimum of a 1000 event history buffer for all off-normal system events.
12. The control panel shall be capable of expanding to accommodate a minimum of 50,000 addressable inputs without having to replace any system equipment or software.
13. The fire alarm system shall be capable of being programmed from the face of the panel without a laptop, EPROM burner, or other special tools.
14. The fire alarm system shall store the system program in a non-volatile memory so that loss of system power or batteries will not affect the system program.
15. The system firmware shall be stored in FLASHROM memory. System firmware shall be capable of being upgraded or modified with a laptop without having to replace system chips. The system firmware upgrades and modifications shall be readily available to the authorized system supplier via the internet from the system manufacturer.
16. The fire alarm control panel shall be password protected, providing a minimum of three separate levels of access (each requiring a different password).
17. One password level shall allow the end-user to check status of any detector or addressable module, as well as review the system history, and detector settings.
18. Another password level shall allow trained personnel the ability to enable or disable specific points or system software zones to allow maintenance or system testing. This password level shall also allow trained personnel to change or adjust device sensitivity.
19. Another password level shall allow factory trained personnel the ability to change, update or modify the system programming or firmware.

C. General Requirements for Fire-Alarm Control Unit:

D. Alphanumeric Display and System Controls: Arranged for interface between human operator at fire-alarm control unit and addressable system components including annunciation and supervision. Display alarm, supervisory, and component status messages and the programming and control menu.

1. General
   a. The system shall be designed and equipped to receive, monitor and annunciate signals from devices and circuits installed throughout the protected area.
   b. Receipt of alarm, trouble, and supervisory signals shall activate integral audible devices at the control panel(s) and at each remote annunciation device.
   c. The integral audible devices shall produce a sound output upon activation.
   d. Alarm, trouble, and supervisory signals shall initiate recognizable different audible outputs. Trouble and supervisory signals may initiate the same audible output if distinction is by visible annunciation.
   e. Integral audible devices shall continue to sound until silenced by a system operator actuating a switch designated for that purpose.
   f. Receipt of subsequent alarm or supervisory signals shall cause the integral audible devices to resound.
   g. The system shall be designed and equipped to provide inputs and outputs as described on the contract drawings.
   h. The system shall recognize and annunciate the following signals:
      i. Fire alarms
      j. Supervisory alarms
      k. Trouble conditions
      l. Operator acknowledgment of annunciated signals
      m. Smoke detection system reset
   n. All alarm signals, supervisory alarm signals and trouble conditions shall be annunciated by the control panel(s) and by each remote annunciation device. Operator acknowledgment of smoke detection signals and system reset shall be annunciated by the control panel(s).
   o. Annunciators and Display: Liquid-crystal type, 2 line(s) of 80 characters, minimum or Graphic Annunciator (Main Building only)
   p. Keypad: Arranged to permit entry and execution of programming, display, and control commands and to indicate control commands to be entered into the system for control of smoke-detector sensitivity and other parameters

2. LCD Type Annunciator
3. Graphic Type Annunciator

E. Circuits:

1. System shall be configured graphically and as described herein.
   a. Initiating Device Circuits.
      1) Fire alarm initiating device circuits shall be Class b, Style B.
      2) For circuits operating addressable initiating or control devices.

2. Signaling Line Circuits (including addressable device circuits).
   a. All signaling line circuits shall be Style "4" Class B circuits.
   b. Color code SLC conductors/wiring as follows: red (+) and black (-)

3. Notification Appliance Circuits
   a. Notification appliance circuits shall be Style "Y", Class B.
   b. Color code notification appliance circuits as follows: blue (+) and white (-)

F. Notification Appliance Circuit: Operation shall sound in a temporal – three pattern.

G. Elevator Recall:

1. Smoke detectors at the following locations shall initiate automatic elevator recall. Alarm-initiating devices, except those listed, shall not start elevator recall.
   a. Elevator lobby detectors except the lobby detector on the designated floor.
   b. Smoke detector in elevator machine room.
   c. Smoke detectors in elevator hoistway.

2. Elevator lobby detectors located on the designated recall floors shall be programmed to move the cars to the alternate recall floor.

3. Water-flow alarm connected to sprinkler in an elevator shaft and elevator machine room shall shut down elevators associated with the location without time delay.
   a. Water-flow switch associated with the sprinkler in the elevator pit may have a delay to allow elevators to move to the designated floor.

H. Door Controls: Door hold-open devices that are controlled by smoke detectors at doors in smoke barrier walls shall be connected to fire-alarm system.

I. Remote Smoke-Detector Sensitivity Adjustment: Controls shall select specific addressable smoke detectors for adjustment, display their current status and sensitivity settings, and change those settings. Allow controls to be used to program repetitive, time-scheduled, and automated changes in sensitivity of specific detector groups. Record sensitivity adjustments and sensitivity-adjustment schedule changes in system memory, and print out the final adjusted values on system printer.
J. Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to a remote alarm station.

2.5 DIGITAL ALARM COMMUNICATOR/TRANSMITTER (DACT)

A. Provide UL listed DACTs for this project.

B. DACTs shall be capable of transmitting up to 4 distinct signals to the off-site monitoring company.

C. DACTs shall interface with the control panel using supervised inputs so that a break in wiring between the DACT and control panel shall automatically transmit a trouble to the off-site monitoring company.

D. The DACTs shall connect to the owner-provided telephone lines via RJ-31X phone jacks.

E. Provide the ability to transmit signals over two separate phone lines.

F. Provide battery back-up capability for the DACT and control panel in accordance with NFPA standby and alarm requirements.

G. Coordinate with the owner’s off-site monitoring company to program the DACT to properly transmit required signals. Provide programming for the DACT as necessary.

H. Retain paragraph below to require printed instructions for projects in which a new fire-alarm control unit is provided or if functions of an existing fire-alarm control unit are modified.

I. Instructions: Computer printout or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.

2.6 UL LISTED SMOKE CONTROL SYSTEM

A. Provide a UL listed smoke control and status system that is an integral part of the fire alarm system control panel or annunciator panel for the existing smoke control system.

B. Provide control and status of each of the following:

1. Elevator shaft fans (on/off)
2. All fans that provide re-circulated air and produce more than 2,000 cfm to internal occupied spaces (on/off/auto)
3. Life safety generators (on/off/auto)
4. Smoke dampers (open/closed)
5. Atrium exhaust fans and dampers (on/off/auto)
6. Outside air and exhaust fans intended for smoke control and removal (on/off/auto)
C. Fabricate and build the smoke control panel in such a way that adequately presents the fan controls and status in a manner that meets the local AHJ requirements. Provide a graphical display that adequately illustrates the fans for easy operation by the Fire Department.

D. Provide direct control of all fans and dampers.

E. Provide direct monitoring of damper position via position switches.

F. Provide direct monitoring of the fan running status by means of differential air pressure switches. Monitoring the starter unit is only acceptable for fans that do not have ductwork.

G. In lieu of direct monitoring and control of fans and starters, interface to the B.A.S. system is allowable if the B.A.S. system is UL listed for smoke control and meets all of the installation requirements of UL.

2.7 POWER SUPPLIES

A. Except where otherwise required by local code, AC power connections shall be made to the building's designated distribution panel. Power supply must accommodate fire alarm control panel, annunciators, and NAC power extender panels.

B. Power shall be 120 VAC service, transformed through a two-winding, isolation type transformer and rectified to low voltage DC for operation of all circuits and devices. The circuit breaker shall be painted red, marked “FACP”, and provide with a lockable handle or cover.

C. All portions of the system, including LCD's, shall be designed and equipped with standby (rechargeable) battery power.

D. Upon failure of normal (AC) power, the affected portions of the system shall automatically switch over to secondary power without losing any alarm, trouble or operator acknowledgment signals.

E. Operation of any portion of the system on secondary power shall annunciate as a trouble signal, identifying the inoperable power supply(ies).

F. Standby batteries shall have sufficient capacity to maintain all portions of the system in a normal, non-alarm condition for a minimum of 24 hours, after which it shall be capable of operating all notification appliances simultaneously for a minimum of fifteen (15) minutes.

G. All standby batteries shall be continuously monitored by the system. Low battery and disconnection of battery power supply conditions shall immediately annunciate as a trouble signal, identifying the deficient batteries.

H. All power supplies shall be capable of recharging their associated batteries, from a fully discharged condition to a capacity sufficient to allow the system to perform consistent with the requirements of this section, in 48 hours maximum. Standby battery capacity may be upsized to meet this requirement.
I. All batteries shall be sealed, maintenance-free type. Wet cell lead acid standby batteries are prohibited.

J. Design load connected to any power supply, amplifier and batteries shall not exceed 80 percent of its rated capacity.

2.8 MANUAL PULL STATIONS

A. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.

1. Single-action mechanism, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.
2. Station Reset: Wrench-operated switch.
3. Indoor Protective Shield: Factory-fabricated clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm. Lifting the cover actuates an integral battery-powered audible horn intended to discourage false-alarm operation.
4. Weatherproof Protective Shield: Factory-fabricated clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm.

2.9 SYSTEM SMOKE DETECTORS

A. General Requirements for System Smoke Detectors:

1. Comply with UL 268; operating at 24-V dc, nominal.
2. Detectors shall be two-wire type.
3. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.
4. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
5. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
6. Integral Visual-Indicating Light: LED type indicating detector has operated and power-on status.
7. Remote Control: Unless otherwise indicated, detectors shall be analog-addressable type, individually monitored at fire-alarm control unit for calibration, sensitivity, and alarm condition and individually adjustable for sensitivity by fire-alarm control unit.
   a. Provide multiple levels of detection sensitivity for each sensor.

B. Photoelectric Smoke Detectors:

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
   a. Primary status.
   b. Device type.
   c. Present average value.
   d. Present sensitivity selected.
   e. Sensor range (normal, dirty, etc.).

C. Duct Smoke Detectors: Photoelectric type complying with UL 268A.
   1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
   2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
      a. Primary status.
      b. Device type.
      c. Present average value.
      d. Present sensitivity selected.
      e. Sensor range (normal, dirty, etc.).
   3. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector.
   4. Each sensor shall have multiple levels of detection sensitivity.
   5. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.

2.10 HEAT DETECTION
   A. Heat detectors shall be addressable type.
   B. Provide addressable heat detectors that are either fixed-temperature or rate-of-rise type, depending on the environment and application.
   C. Heat detectors shall be low-profile and utilize separate bases for mounting. Detector bases shall mount to the electrical device box and provide screw terminals for wire connections.
   D. Heat detectors shall provide mounting base options that allow for integral sounder bases, relay bases, or isolator module bases. Provide special detector bases as required for this project.
   E. All heat detector bases shall allow for connection to remote status LED’s. Provide remote status LED’s when heat detectors are located out of sight.
   F. The heat detector shall twist-lock into the detector base and be capable of being configured to lock into the base thus requiring a special tool for removal.
G. Heat detectors shall feature two bi-color status LED’s that allow the user to see the status led from any direction. The led shall blink green to annunciate normal status, and change to a constant red color when an alarm condition occurs at the detector.

H. Heat detectors located in areas subject to freezing shall be conventional detectors that are UL listed for temperatures below 32 degrees F. Provide a separate addressable interface module that is located in a conditioned area (with a status led) connected to the heat detector using a supervised initiating device circuit.

2.11 AUDIBLE /VISUAL NOTIFICATION APPLIANCES

A. General

1. Notification appliances shall consist of fire alarm audible and visual devices, located as shown on the contract drawings.
2. Where indicated on the contract drawing, provide and install protective cage. Protective case shall be an approved accessory device from the audio/visual manufactures. Cage shall not reduce the candela rating of the audio/visual device.
3. Audible notification appliances shall be installed, spaced, and tapped so as to produce a sound output on alarm, which is clearly audible above the ambient noise level for selected areas. Audible alarm devices shall operate in the Public Mode as described by Chapter 7 of NFPA 72.
4. Notification appliances shall be wall-mounted at 96 inches above the finished floor or ceiling mounted.

B. Fire Alarm Audible Notification Appliances

1. Fire Alarms Horns

   a. Be UL listed.
   b. In no case produce a sound output, on alarm, of less than 85 dBA at 10 feet. The system must produce sound power levels of at least 15 dBA above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds (whichever is greater), measured 5 ft. above the floor in the occupiable area. Ambient sound levels shall be as determined by actual measurement or NFPA 72 Section A 7.4.2, whichever is greater.
   c. Fire alarm audible alarm signals shall comply with ANSI S3.42, American National Standard Audible Emergency Evacuation Signal having a standard three pulse temporal pattern.
   d. Sound level shall not exceed 110 dBA in any location.

2. Visual Notification Appliances

   a. Visual devices shall be installed throughout the school building, in all common areas as depicted on the contract drawings, and as required by ADA guidelines.
   b. Visual notification appliances shall be a minimum of 15 and maximum of 110 candela-seconds.
c. Visual notification appliances shall consist of a Xenon flash tube, high intensity strobe lamp, with clear (nominal white) light having a flash rate of 1 hertz. The maximum pulse duration shall be 2/10ths of one second (0.2 seconds), with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final points of 10 percent of maximum signal.
d. Placement of visual notification appliances in quiet rooms shall be 24 inches or more from the ceiling, and not more than 16 feet from sedentary furniture.
e. Visual notification applications shall be listed in accordance with UL 1971.
f. Visual notification appliance circuits connected to this device shall be configured so that all associated wiring is supervised, and is on separate circuits from audible notification appliances. Visual appliances shall activate anytime audible appliances are activated.

3. Combination horn/strobe appliances are allowable.

2.12 MAGNETIC DOOR HOLDERS

A. Description: Units are equipped for wall or floor mounting as indicated and are complete with matching doorplate.
   1. Electromagnet: Requires no more than 3 W to develop 25-lbf holding force.
   2. Wall-Mounted Units: Flush mounted unless otherwise indicated.
   3. Rating: 24-V ac or dc.
   4. Rating: 120-V ac.

B. Material and Finish: Match door hardware.

2.13 REMOTE ANNUNCIATORS

A. LCD Type
   1. Indicating LCD displays shall indicate all fire and supervisory alarm signals received until such time as the alarm condition is cleared and the display manually reset.
   2. Indicating LCD displays shall indicate all trouble signals received until such time as the trouble condition is cleared.
   3. Indicating LCD displays shall be clearly labeled using nomenclature approved by the Owner.
   4. Operating (electrical) power shall be derived from the control panel(s) via a supervised circuit; OR from a power supply meeting the requirements of Specification Section 2.3.
   5. The display shall contain a minimum 80-character display that includes date, time, and custom description of the type and location of the alarm.
   6. The annunciator shall be capable of displaying all previous alarm and trouble events by scroll-back command.
   7. Provide for a minimum of 20 percent system expansion.

B. Graphic Type
1. Provide remote graphic annunciator that displays the system activity using light emitting diodes (LED’s) in Main Building only.
2. The graphic annunciator shall utilize silk-screen graphics etched behind Plexiglas.
3. LED’s shall be used to graphically illustrate the floor and zone where the fire event has occurred.
4. The graphic annunciator shall illustrate the following information:
   a. Type of device
   b. Floor of event
   c. Fire Alarm Zones and Sprinkler Zones
   d. “You Are Here” indication
   e. North Arrow
   f. “System Reset”, “Acknowledge” and “Trouble Silence” Switches (Keyed in public areas).
   g. Egress paths marked
   h. Different graphic floor depictions for each level of the building that is unique
5. The graphic annunciator shall utilize scaled graphic displays for each level of the building that features distinct evacuation routes and fire alarm zones.
6. The graphic annunciator shall be controlled by serial driven lamp driver modules that communicate with the control panel via a data connection
7. Provide adequate capacity via the lamp driver module(s) to accommodate all of the LED’s on the annunciator plus additional capacity for 10 additional LED’s for any type of annunciation service.

C. Description: Annunciator functions shall match those of fire-alarm control unit for alarm, supervisory, and trouble indications. Manual switching functions shall match those of fire-alarm control unit, including acknowledging, silencing, resetting, and testing.
   1. Mounting: Surface cabinet, NEMA 250, Type 1.

D. Display Type and Functional Performance: Alphanumeric display and LED indicating lights shall match those of fire-alarm control unit. Provide controls to acknowledge, silence, reset, and test functions for alarm, supervisory, and trouble signals.

2.14 ADDRESSABLE INTERFACE DEVICE

A. CIRCUIT INTERFACE MODULES
   1. The Contractor shall provide, install, and test addressable circuit interfaces to miscellaneous supervisory devices, such as existing suppression systems.
   2. All circuit interfaces used for supervisory functions shall be mounted within 3 feet of this monitored switch or circuit.

B. ADDRESSABLE RELAYS
   1. Addressable relays shall be provided as required to provide control interface between the fire alarm system and other life safety systems.
2. All addressable relays shall be installed within three feet of the device or system being controlled in accordance with NFPA 72 in order to minimize the amount of unsupervised wiring.

3. Addressable relays shall provide two independent sets of form “C” contacts that are rated for 2.0 amps at 24 volts AC/DC, and rated for 0.2 amps at 120 volts AC.

4. Addressable relays shall have an integral LED that illuminates RED when activated. The LED shall be visible through the device cover.

5. Addressable relays shall fit into a standard 4 inch square electrical box.

6. Provide an approved barrier in each addressable relay so as to separate current-limited circuits and non-current-limited circuits.

7. Each relay shall be appropriately labeled to describe it’s purpose.

8. Where more than three relays are required for interface to a single unit (such as a motor control center), provide multiple relay module cards.

C. ADDRESSABLE INTERFACE MODULES

1. Provide addressable interface modules as required to create supervised initiating device circuits to monitor input devices or other systems that utilize dry contacts for the status interface.

2. Addressable interface modules shall be capable of independently reporting “active”, “open-circuit”, “ground fault”, and “open circuit” status for each initiating device circuit.

3. Addressable interface modules shall have an integral LED that illuminates RED when activated. The LED shall be visible thru the device cover.

4. to properly transmit required signals. Provide programming for the DACT as necessary.

2.15 CONDUITS AND CONDUCTORS

A. Except as otherwise required by local Code and/or these Specifications, fire alarm circuit wiring shall conform to the requirements of Article 760 of NFPA 70 - 2002 which includes wiring methods found in Chapter 3 of the National Electrical Code (NFPA 70).

B. Fire alarm circuit wiring shall be installed in a UL listed metal conduit.

C. All cable runs shall be continuous between devices without splices. All terminations of conductors shall be to screw-type terminal blocks. Wire nuts, wrap-on and crimp connectors shall not be permitted. Wires connected together shall have the same color insulation. All connections shall be accessible for inspection and servicing and shall be clearly identified on the contractor record drawings. Note: This section shall not restrict the use of manufacturer-connectorized cables used for peripheral connections and subassemblies, e.g. EIA232/EIA485 communication cable connectors and card edge connectors.

D. Wire and cable shall be sized, twisted, shielded and insulated as recommended by the fire alarm system manufacturer, the applicable local Electrical Code and Article 760 of NFPA 70 - 2002. All conduits shall be grounded in conformance with the applicable local Electrical Code. Provide 14 AWG THHN stranded copper minimum.
E. Where conduit is embedded in plaster, the Contractor shall use a type approved by the applicable local Electrical Code for this use. All joints in such embedded conduit shall be liquid and gas-tight. Continuous run of conduit without joints is preferred for embedding.

F. All electrical enclosures, raceways, and conduits shall contain only those electrical circuits associated with the fire detection and alarm system and shall not contain any wire that is unrelated to the system.

G. All splices shall be made at terminal cabinets with marked screw-type terminals dedicated to the purpose.

H. Wire that has scrapes, nicks, gouges or crushed insulation shall not be used.

I. The use of aluminum wire is prohibited.

J. All electrical circuits shall be numerically identified at both ends with wire-taped numbers.

K. All system conductors, except grounding conductors, shall be solid copper.

L. All end-of-line resistors shall be mounted on terminal blocks.

M. Powder-driven fasteners are prohibited.

N. Exposed conduit, raceways, junction boxes and equipment backboxes shall be painted to be as inconspicuous as possible. The Owner shall approve the paint color selected. The Contractor shall prepare color samples for inspection by the Owner prior to painting.

O. All device backboxes, junction boxes and pull boxes shall be accessible for inspection and maintenance. Junction pull boxes shall be installed on 100-foot centers maximum.

2.16 DEVICE GUARDS

A. Description: Welded wire mesh of size and shape for the manual station, smoke detector, gong, or other device requiring protection.

1. Factory fabricated and furnished by manufacturer of device.
2. Finish: Paint of color to match the protected device.

PART 3 - EXECUTION

3.1 STARTING AND COMPLETION DATES

A. The starting and completion dates for this work will be established at the pre-bid meeting.
3.2 INSPECTION

A. The job site supervisor shall examine daily all areas in which the work will be performed on the
day prior to beginning work. The supervisor shall immediately report unsatisfactory working
conditions to the Project Manager for resolution. The supervisor shall not proceed with the work
until all unsatisfactory working conditions have been corrected.

3.3 INSTALLATION

A. General

1. All connections to the building electrical system shall be made by and coordinated with
electricians designated by the Project Manager.
2. The Installing Contractor shall, as permitted by the Project Manager, remove existing
walls, ceilings or floors as required for the installation of this work.
3. All holes made by the Installing Contractor in any wall, ceiling or floor shall be patched
by such Contractor, restoring the walls, ceilings, and floors to their original condition,
fire resistance and integrity.
4. Removal and repair of all finished surfaces shall be coordinated with the Project Manager
and is subject to his approval.
5. All piping and conduit shall be installed at a height so as not to obstruct any portion of a
window, doorway, stairway or passageway and shall not interfere with the operation of
any exiting mechanical or electrical equipment.
6. System riser(s) shall be installed in mechanical raceways or conduit, located to avoid
physical harm. They shall be routed through protected spaces, such as electrical closets.
Locations such as loading docks and less than 8 feet above the floor shall be avoided.
7. Locations of all equipment, controls and system components are subject to the approval
of the Project Manager.
8. Upon completion of fire alarm installation, the Installing Contractor must remove and
dispose of all old fire alarm equipment and devices. Wiring should be removed and
disposed of where required by the Owner.

B. Installation of Fire Alarm Initiating and Indicating Device

1. FACP: Locate the control panel 6 feet above finished floor to the top of the enclosure. All
conductor terminations shall be labeled and a drawing containing all conductors, their
labels, their circuits and their interconnection shall be permanently mounted in the FACP.
2. Notification Appliance Devices: Locate notification appliance devices where shown on
the drawings. Mount assemblies on walls between 80 and 96 inches above the finished
floor or 6 inches below the ceiling, whichever is lower.
3. Smoke and Heat Detectors: Locate detectors as shown on the drawings on a 4- inch
square mounting box. Detectors located on the ceiling shall be installed not less than 4
inches from a sidewall to the near edge. Install smoke detectors no closer than 5 feet from
air handling supply outlets.
4. HVAC duct smoke detectors shall be located in accordance with the manufacturer’s
instructions and NFPA 72. Sampling tubes shall, where ever practical, be installed a
minimum distance of 6 duct widths from elbows in ductwork. Provide access panels as
necessary to adequately inspect and service detection components, including sampling tubes.

C. Concealment

1. In all finished areas, wire, cable, conduit, raceways, junction boxes, and device backboxes shall be concealed in walls, ceiling spaces, electrical shafts, or closets. Conduit, raceways, junction boxes and device backboxes may be exposed in mechanical, electrical, service equipment areas, or other areas where specifically indicated on the contract drawings.
2. Junction boxes shall be painted red.

D. System Labeling

1. All system equipment, enclosures, devices, and device backboxes must be permanently labeled by the Installing Contractor and cross-referenced to the design drawings. Labeling and designation conventions must be pre-approved by the Project Manager.
2. System labels shall be designed for permanent attachment and use, and be durable, sunlight, and scratch resistant.
3. Each fire alarm initiating device (i.e. waterflow, tamper, smoke detector) shall be provided with a system label indicating the respective device address. The address of each device shall be visible from a distance of 5 feet away from the respective device.

3.4 TESTING

A. System Tests

1. The Installing Contractor shall provide the Project Manager with written certification that all equipment:
   a. Has been inspected and tested by a manufacturer's certified representative.
   b. Is installed in accordance with the manufacturer's recommendations, UL listings, NFPA 72, local codes, and granted variances.
   c. Is in proper working order.
   d. Provide a completed Record of Completion document, per NFPA 72, to the Project Manager for review prior to any acceptance testing.
2. All testing shall be in accordance with NFPA 72 Chapter 7 and shall be performed by the Installing Contractor.

B. Acceptance Testing

1. Upon completion of each installation phase, the Installing Contractor shall perform and document, on an approved format, system tests as required herein. All acceptance tests shall be performed in the presence of the Project Manager or his designated representatives.
   a. All conductors, including shielding conductors, shall be tested for continuity, shorts to ground and shorts between pairs.
b. All remote transmitting panel monitor points shall be functionally tested and monitor point identifications verified.

c. All alarm initiating devices shall be functionally tested. This includes all smoke detectors. Address label on each initiating device shall be verified with respective device address at each annunciation device.

d. All supervisory functions of each initiating device and signaling line circuits shall be functionally tested.

e. All building control functions (i.e., HVAC fan shutdown) and all others as directed by the Project manager initiated by the fire alarm control panel shall be tested.

f. Receipt of all alarm and trouble signals, initiated during the course of the testing, shall be verified at each annunciation device.

g. Correct labeling of all annunciation device LED's or LCD's shall be verified.

h. The system CPU and annunciators shall be load tested for 6 hours on standby battery power and successfully recharge to normal standby condition.

i. All remote-transmitting panels shall be load tested for 6 hours on standby battery power and successfully recharge to normal standby condition.

j. Any additional tests, required by the referenced codes, standards, or criteria, or by the Owner, shall be performed. Documentation of such tests shall include:

1) The date and time of each test.
2) A reference set of contractor record drawings, numerically identifying the individual components and circuits tested, test locations, and indicating the measured sound level in each location.
3) A description of each test performed.
4) A checklist of each device and circuit tested, indicating the results of each test.
5) The names and signatures of the individuals conducting and witnessing each test.
6) A complete printout of the system program produced by the system printer. This printout shall be produced and dated upon completion of all required Installing Contractor testing/verification, including any modifications necessary prior to final acceptance testing.

k. All required signage will be inspected.

l. The Installing Contractor shall post suitable signs the day prior to, and shall maintain during, testing, which indicate the date and time fire alarm testing is to occur. The signs shall be located in lobbies and other suitable locations so as to notify occupants of the testing.

C. Inspection and Tests

1. The Installing Contractor shall make arrangements with the Project Manager for final Contractor inspection and witnessing of the final acceptance tests. The Owner and the Engineer will witness the final acceptance test. The Installing Contractor is responsible for obtaining complete final system acceptance and approvals by the authorities having jurisdiction.
2. If, after being advised by the Installing Contractor that the work is completed and ready for test, the work has not been completed or the final acceptance tests are unsatisfactory, the Installing Contractor shall be responsible for the Owner’s extra expenses ($140 per hour plus reimbursables) for reinspection and witnessing the retesting of the work. Such extra fees shall be deducted from the payments made by the Owner to the Prime Contractor.

3. The Installing Contractor shall provide at least five working days notice for all tests.

4. The Installing Contractor will make all repairs or changes, at his expense, required for this acceptance.

3.5 MATERIAL HANDLING

A. Storage

1. The Project Manager will provide the Installing Contractor with a lockable storage space for the Contractor's use during this project. The Installing Contractor shall be responsible for the security of this space.

2. Overnight storage of materials is limited to the assigned storage area. Materials brought to the work area shall be installed the same day, or returned to the assigned storage area unless previously approved by the Project Manager.

B. Receiving and Handling

1. The Installing Contractor shall be responsible for all receiving, handling, and storage of his materials at the job site.

2. Use of loading docks, service driveways, and freight elevators shall be coordinated with the Project Manager.

C. Rubbish Removal

1. The Installing Contractor shall remove rubbish and debris resulting from his work on a daily basis. Rubbish not removed by the Installing Contractor will be removed by and back-charged to the Installing Contractor.

2. Removal of debris and rubbish from the premises shall be coordinated with the Project Manager.

END OF SECTION 283111