

PROJECT MANUAL

PROJECT NO. AOPC 201801

**Contract No. AOPC 201801.1 – General Construction
Contract No. AOPC 201801.2 – Mechanical Construction
Contract No. AOPC 201801.4 – Electrical Construction**

For

**MISCELLANEOUS RENOVATIONS AT 2ND, 6TH & 8TH FLOORS
ADMINISTRATIVE OFFICE OF PENNSYLVANIA COURTS
PENNSYLVANIA JUDICIAL CENTER
Harrisburg, Dauphin County, Pennsylvania**

**COMMONWEALTH OF PENNSYLVANIA
HARRISBURG, PENNSYLVANIA**

**VITETTA
Architects and Engineers
2505 North Front Street
Harrisburg, Pennsylvania**

May 15, 2018

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Bid Guaranty Not applicable.

Proposed Date of Completion 75 Calendar Days from Date of Initial Job Conference

Proposal Period 60 Days allowed from Bid Opening until Award of Contract

Plans Deposit Not applicable. Drawings and specifications will be distributed electronically as PDF files.

Contact Office VITETTA

Contact Mailing Address 2505 North Front Street, Suite 100
Harrisburg, PA 17110

Contact Telephone Numbers Telephone Number: (717) 233-1105
e-Fax Number: (717) 754-0558

Contact Person Sharon Hindermyer

List of Bidders
Who Secured Contract Documents .. hindermyer@vitetta.com

Bid Results hindermyer@vitetta.com

In accordance with the provisions of the Contract Compliance-construction contracts Statement of Policy (4 Pa. Code Chapt. 68, Section 68.102 (a)-(g)), the Department of General Services Policy form Small Diverse Business minimum participation level on all Commonwealth Public Works Projects applies to this project. Only DGS-verified Small Diverse Businesses (i.e., Minority, Women, Veteran, and Service Disabled Veteran contractors, suppliers, and manufacturers) can be used to achieve the minimum participation level. The minimum participation levels set for this project are as follows:

		<u>MPL</u>
.1	General Construction	7.5%
.2	Mechanical Construction	7.5%
.4	Electrical Construction	7.5%

Refer to the Instructions to Bidders, September 2013 Edition, Section 26 – Small Diverse Business Participation for further information.

For the listings of certified Small Diverse Businesses (Minority, Women, Veteran, and Service Disabled Veteran Business Enterprises), go to

http://www.portal.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_149084_20986_1251417_43/http%3B/pubcontent.state.pa.us/publishedcontent/publish/cop_general_government_operations/dgs/community_content/doing_business_with_the_commonwealth/subcommunities/bmwbo/document_management/construction_sdbs.xls

and click the appropriate links or contact the Bureau of Small Business Opportunities at 717/783-3119. Address correspondence to:

Bureau of Small Business Opportunities
611 North Office Building
Harrisburg, Pennsylvania 17125

THE INSTRUCTIONS TO BIDDERS, CONTRACT, CONTRACT BOND, GENERAL CONDITIONS SEPTEMBER 2013 EDITIONS, ARE INCORPORATED INTO AND APPLY TO THIS PROJECT.

PRE-BID CONFERENCE

A PRE-BID CONFERENCE HAS BEEN SCHEDULED FOR TUESDAY, MAY 29, 2018 AT 9:00 AM IN CONFERENCE ROOM D ON THE 1ST FLOOR OF THE PENNSYLVANIA JUDICIAL CENTER, 601 COMMONWEALTH AVENUE, HARRISBURG, PA 17120

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END OF SECTION 000002

**INSTRUCTIONS
TO
BIDDERS**

2013 EDITION

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**FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN THE
REJECTION OF THE BID AS NOT RESPONSIVE.**

SECTION 1. WORK TO BE PERFORMED. The Work to be performed is described in the Contract Documents. The Contract Documents may be inspected during regular business hours at the offices of the Administrative Office of the Pennsylvania Courts (AOPC) on the 4th floor, Pennsylvania Judicial Center, 601 Commonwealth Avenue, Harrisburg, PA 17120. Electronic PDF files of the Contract Documents may be obtained from the Professional.

SECTION 2. FAMILIARITY WITH PROPOSED WORK. The Bidder is responsible for examining the nature and location of the Work, the conformation of the ground, the soil and rock conditions, and the character, quality and quantity of the materials that will be required. The Bidder shall also examine the proposed Contract Documents, including the plans, specifications, the General Conditions, Special Conditions (if applicable), Administrative Procedures, and all other documents and data pertaining to the Project. After the award of the contract, the Contractor may not submit any claim alleging insufficient data, incorrectly assumed conditions, or misunderstanding with regard to matters for which no such clarification was sought during the bidding phase of the Project, as described further in the General Conditions of the Construction Contract.

SECTION 3. INTERPRETATION OF CONTRACT DOCUMENTS.

- A.** Requests for Interpretation during the bid stage **shall be submitted in writing** to the Professional, whose name and address can be found in the Notice to Bidders. All Requests for Interpretation related to the proposed Work or proposed contract documents must be received, in writing, by the Professional, **no later than close of business ten (10) days prior to the Bid Opening Date**. Only written Requests for Interpretation received no later than ten (10) days prior to the date fixed for the opening of bids will be considered. If a request is received within 10 days of the bid opening date, the AOPC may, in its sole discretion, answer the request. Requests via emails shall not be considered "written" requests.
- B. NEITHER THE AOPC, NOR THE PROFESSIONAL SHOULD BE ASKED TO PROVIDE ANY ORAL INTERPRETATION TO ANY BIDDER REGARDING INTERPRETATION OF THE CONTRACT DOCUMENTS. ANY CONVERSATION BETWEEN A BIDDER AND EITHER THE AOPC OR THE PROFESSIONAL, SHOULD NOT BE RELIED UPON BY ANY BIDDER, IS NOT BINDING UPON THE DEPARTMENT, AND SHALL NOT BECOME PART OF THE CONTRACT DOCUMENTS UNLESS THE INFORMATION SUBSEQUENTLY APPEARS IN A WRITTEN BULLETIN.**
- C.** The AOPC's response to any Request for Interpretation will be in the form of a written bulletin signed by the AOPC. The Professional will forward all bulletins to all Bidders that obtained plans and specifications for the Project. All bulletins become a part of the Contract Documents, and all Bidders on any portion of the contract for the Project are bound by all bulletins issued on the project.

SECTION 4. SUBMISSION OF BIDS. All bids shall be submitted on the form prepared by the AOPC. Bidder should retain a copy for their own use. All entries on the bid must be in ink or typewritten, preferably in blue ink to indicate an original writing.

- A. **Base Bids.** All base bids will be considered as separate and distinct bids. If a base bid is left blank, the AOPC will interpret this to mean the Bidder did not submit a bid on that base bid, but this will not invalidate any remaining base bids. In case of discrepancy between the words and numbers, the written words are the bid price.

SECTION 5. SIGNING THE BID. The Bidder must sign the bid correctly as described in the bid documents. The signature must be an ORIGINAL and HAND-SCRIPTED signature. If the bid is submitted by a corporation, the bid should be signed by the President or Vice President and any one of the following officers of the Corporation: the Secretary, Assistant Secretary, Treasurer, or Assistant Treasurer. If not signed by the specified officers, the signing individual must be authorized to sign by the corporation's board of directors. If a person other than one of these officers executes the bid, a copy of the document authorizing that person to execute the bid must accompany the bid. **If the Certification and Bid Signature page is left blank, the bid will be deemed void and the bid WILL BE REJECTED by the AOPC. The bidder will NOT be given any opportunity to sign the page after the time and date of the bid opening. A signature appearing any other place in the bid package shall not be sufficient to substitute for the lack of a signature on the Certification and Bid Signature page.**

SECTION 6. STATE OF INCORPORATION. If the Bidder is incorporated or organized in a state other than Pennsylvania, the Bidder must state whether the corporation, LLC, or LP is registered to do business in Pennsylvania. If the Bidder operates under an assumed or fictitious name, the Bidder must state whether such name has been registered in Pennsylvania.

SECTION 7. AWARD TO A FOREIGN BUSINESS. No contract will be awarded to a Bidder which is a foreign corporation, a foreign limited liability company, a foreign limited partnership, or which is operating under a fictitious or assumed name unless the Bidder has complied with, or agreed to comply with, the registration requirements under the Business Corporation Law of 1988 (15 Pa. C.S. §4121-§4131) and/or the Limited Liability Company Law of 1994 (15 Pa. C.S. §8981-§8982), and/or the Partnership Code (15 Pa. C.S. §8581-§8590), and/or the Fictitious Names Act (54 Pa. C.S. §301-§332).

SECTION 8. BID GUARANTY. Not required.

SECTION 9. TIMELY DELIVERY OF BID PROPOSAL. The bidder must submit its bid to the AOPC prior to the time scheduled for bid opening, regardless of the method of delivery used. Any bid received after the time set for the bid opening will be returned to the bidder without being considered by the AOPC. The bid will not be returned if it is not possible to determine the identity and address of the bidder.

SECTION 10. DELIVERY OF BID IN CLEARLY MARKED ENVELOPE. All bids shall be enclosed in a sealed envelope and marked plainly on the outside with the contract number, bid opening date and time. If the bid envelope is to be enclosed in another envelope for the purpose of express-type delivery, the exterior envelope shall be clearly marked as a bid and the contract number, bid opening date and time shall be shown on the exterior envelope.

- A. **Submission of Bid by Mail.** If submitted by mail, the sealed envelope shall be sent to the address for receiving bids noted in the "Notice to Bidders" for the particular Project, and should be sent Return Receipt Requested.
- B. **Submission of Bid by other than Mail.** If submitted other than by mail, the bid must be delivered to the address noted in the particular "Notice to Bidders" prior to the time stated therein.
- C. **Submission of Bid by Hand Delivery.** Photographic identification and proof of authorization will be required from individuals who are hand-delivering bids.

SECTION 11. WITHDRAWAL OR MODIFICATION OF A BID PRIOR TO BID OPENING

- A. Complete Withdrawal Before Bid Date or Time.** A Bid may be withdrawn by written notice or in person by a Bidder or its authorized representative (if their identity is established by photographic identification and proof of authorization, preferably on Bidder letterhead) and a receipt for the bid is signed prior to the exact hour and date set for the opening of bids.
- B. Modification Before Bid Date or Time of a Bid of Bid Already Submitted But Not Opened.** If, before the time of the bid opening, a Bidder wishes to modify a bid already delivered to the AOPC, the Bidder or its authorized representative (if their identity is made known through photographic identification and proof of authorization) may request that the AOPC return the bid, but only if the Bidder/representative signs a receipt for the bid **before** the exact hour and date set for the opening of bids. The Bidder or their authorized representative may then modify the bid and resubmit the bid so long as the modified bid complies with the requirements set forth in these Instructions to Bidders. The AOPC will not, under any circumstances, open a bid before the bid opening date and time.

SECTION 12. BID OPENING PROCEDURE. Bids will be opened and read by the AOPC in the presence of one or more witnesses at the time and place designated in the Notice to Bidders. The bid opening will not be open to the public. In case of discrepancy between the Bidder's written words and numbers, the written words constitute the bid price. No inspection or photocopies of any Bid Proposal will be made at the bid opening. The amount of each bid, together with the name of each Bidder will be recorded. Such recorded information shall be considered unofficial. The bid tab, listing the Bidders and their bid amount, will formally be made available to interested parties within ten (10) days of the opening.

SECTION 13. REJECTION OF BID. The AOPC reserves the right to reject any or all bids or parts thereof. A bid may be rejected if it shows any omission, alterations of form, additions or deductions not called for, conditional language or uninvited alternate bids, or irregularities of any kind. The AOPC reserves the right, however, to waive technical defects or irregularities on bids. The AOPC may reject the bid of any Bidder failing to meet the requirements of these Instructions to Bidders or any other requirements of Bidders set forth in the Contract Documents.

SECTION 14. WITHDRAWAL OF BIDS AFTER BID OPENING. Within three (3) days after the opening of the bids, but before award, a Bidder may request permission to withdraw its entire bid or a particular Base Bid if it submits a request, in writing, to the AOPC. The request must be addressed to the AOPC, 601 Commonwealth Avenue, Harrisburg, PA 17120, Attention William Hollenbach. It may be faxed to the same individual at (717) 231-3302. The request will not be considered received unless it is directed as set out in this section. With the request for withdrawal, the Bidder must submit evidence that the reason for withdrawal is a clerical mistake as opposed to a judgment mistake and was actually due to an unintentional arithmetical error or an unintentional omission of a substantial quantity of work, labor, material or services made directly in the compilation of its bid.

SECTION 15. EXPERIENCE QUESTIONNAIRE AND FINANCIAL STATEMENT PROVIDED ON REQUEST. At the AOPC's request, or if specifically required by the bid, Bidders shall file an experience questionnaire and financial statement with the AOPC on the form provided by the AOPC. The questionnaire and statement shall be certified to be true and correct by an affidavit sworn to or affirmed before a Notary Public, or other officer empowered to administer oaths or affirmations. Falsification of any requested information shall result in a rejection of the bid as not responsible, forfeiture of the bid bond and/or cancellation of the Contract Award.

SECTION 16. REFUSAL TO SUBMIT REQUESTED INFORMATION. In the event the Bidder fails, refuses or neglects to submit any requested information within the time stated in any request, or fails to qualify as a responsible Bidder; its bid guaranty may be forfeited to the use of the AOPC, not as a penalty, but as Liquidated Damages.

SECTION 17. COLLUSIVE BIDS WILL BE REJECTED. The bids of any Bidder or Bidders who engage in collusive bidding will be rejected. Any Bidder who submits more than one bid in such manner as to make it appear that the bids submitted are on a competitive basis from different parties will be considered a collusive Bidder. Submission of collusive bids will result in a Bidder being rejected as not responsible for subsequent projects. Nothing in this Section prevents a Bidder from superseding a bid by submitting a subsequent bid, delivered prior to bid opening, which expressly revokes the previous bid.

SECTION 18. BID PROTEST PROCEDURE. Any bidder, prospective bidder, or prospective contractor who is aggrieved in connection with the solicitation or award of a contract may file a protest, in writing, with the designated procurement contact or contract administrator. Protests relating to cancellation of invitations for bids or requests for proposals and protests relating to the rejection of all bids or proposals are not permitted.

SECTION 19. BIDDER CERTIFIED NOT UNDER DEBARMENT. The Bidder must certify that it is not currently under suspension or debarment by the Commonwealth, any other state, or the federal government, and if the Bidder cannot so certify, then the Bidder agrees to submit along with the bid a written explanation of why such certification cannot be made.

SECTION 20. SUBCONTRACT WITH DEBARRED OR SUSPENDED FIRM. If the successful Bidder enters into subcontracts or employs any subcontractors/individuals who are currently suspended or debarred by the Commonwealth or the federal government or who become suspended or debarred by the Commonwealth or federal government during the term of this contract or any extensions or renewals thereof, the Commonwealth shall have the right to require the Contractor to terminate such subcontracts or employment.

This procedure is established to provide any bidder, prospective bidder, or prospective contractor with the opportunity to seek review by the AOPC Executive Administrator of the process in connection with the solicitation or award of a contract. EXCEPT THAT IN NO EVENT MAY A PROTEST BE FILED LATER THAN SEVEN DAYS AFTER THE PROTESTING BIDDER OR PROSPECTIVE CONTRACTOR KNEW OR SHOULD HAVE KNOWN OF THE FACTS GIVING RISE TO THE PROTEST.

A protest must be in writing and state all grounds upon which the protesting party asserts that the solicitation or award was improper. The protesting party may submit with a protest any documents or information deemed relevant. The AOPC Executive Administrator will immediately upon receipt of the protest decide whether or not the solicitation or award shall be stayed or the performance of the contract should be suspended. The AOPC may, in its sole discretion, request more information from the protesting party or other bidders, or conduct interviews. After review, the AOPC shall notify the protesting party of the final decision on the bid protest which will be within the sole discretion of the AOPC. *Legal Department review must be sought in the event that any protest is filed implicating the AOPC bidding process or a contract award.*

SECTION 21. REIMBURSEMENT OF COSTS OF INSPECTOR GENERAL INVESTIGATION. The Contractor shall reimburse the Commonwealth for the reasonable costs of investigation incurred by the Office of Inspector General for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Commonwealth which result in the suspension or debarment of the Contractor. Such costs shall include, but not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for investigative costs for investigations which do not result in the Contractor's suspension or debarment.

SECTION 22. CURRENT LIST OF SUSPENDED AND DEBARRED CONTRACTORS. The Contractor may obtain the current list of suspended and debarred Contractors by referring to the Department of General Services Construction and Public Works website or by contacting the:

Department of General Services
Office of Chief Counsel
603 North Office Building
Harrisburg, Pennsylvania 17125
Telephone No. (717) 783-6472

SECTION 23. **ASSIGNMENT OF ANTITRUST CLAIMS.** The Contractor and the Commonwealth recognize that, in actual economic practice, overcharges by the Contractor's suppliers, resulting from the violations of State or Federal antitrust laws, are, in fact, borne by the Commonwealth. As part of the consideration for the award of this contract, and, intending to be legally bound, the Contractor assigns to the Commonwealth all right, title and interest in, and to, any claims contractor now has, or may hereafter acquire, under State or Federal antitrust laws relating to the goods or services, which are the subject of this contract.

SECTION 24. **CONTRACTOR INTEGRITY PROVISIONS**

- A.** It is essential that those who seek to contract with the Commonwealth of Pennsylvania ("Commonwealth") observe high standards of honesty and integrity. They must conduct themselves in a manner that fosters public confidence in the integrity of the Commonwealth procurement process.
- B.** In furtherance of this policy, Contractor agrees to the following:
- a. Contractor shall maintain the highest standards of honesty and integrity during the performance of this contract and shall take no action in violation of state or federal laws or regulations or any other applicable laws or regulations, or other requirements applicable to Contractor or that govern contracting with the Commonwealth.
 - b. Contractor shall establish and implement a written business integrity policy, which includes, at a minimum, the requirements of these provisions as they relate to Contractor employee activity with the Commonwealth and Commonwealth employees, and which is distributed and made known to all Contractor employees.
 - c. Contractor, its affiliates, agents and employees shall not influence, or attempt to influence, any Commonwealth employee to breach the standards of AOPC Code of Conduct or to breach any other state or federal law or regulation.
 - d. Contractor, its affiliates, agents and employees shall not offer, give, or agree or promise to give any gratuity to a Commonwealth official or employee or to any other person at the direction or request of any Commonwealth official or employee.
 - e. Contractor, its affiliates, agents and employees shall not offer, give, or agree or promise to give any gratuity to a Commonwealth official or employee or to any other person, the acceptance of which would violate the AOPC Code of Conduct or any statute, regulation, statement of policy, management directive or any other published standard of the Commonwealth.
 - f. Contractor, its affiliates, agents and employees shall not, directly or indirectly, offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for the decision, opinion, recommendation, vote, other exercise of discretion, or violation of a known legal duty by any Commonwealth official or employee.
 - g. Contractor, its affiliates, agents, employees, or anyone in privity with him or her shall not accept or agree to accept from any person, any gratuity in connection with the performance of work under the contract, except as provided in the contract.
 - h. Contractor shall not have a financial interest in any other contractor, subcontractor, or supplier providing services, labor, or material on this project, unless the financial interest is disclosed to the Commonwealth in writing and the Commonwealth consents to Contractor's financial interest prior to Commonwealth execution of the contract. Contractor shall disclose the financial interest to the Commonwealth at the time of bid or proposal submission, or if no bids or proposals are solicited, no later than Contractor's submission of the contract signed by Contractor.

- i. Contractor, its affiliates, agents and employees shall not disclose to others any information, documents, reports, data, or records provided to, or prepared by, Contractor under this contract without the prior written approval of the Commonwealth, except as required by the *Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104*, or other applicable law or as otherwise provided in this contract. Any information, documents, reports, data, or records secured by Contractor from the Commonwealth or a third party in connection with the performance of this contract shall be kept confidential unless disclosure of such information is:
 - i. Approved in writing by the Commonwealth prior to its disclosure; or
 - ii. Directed by a court or other tribunal of competent jurisdiction unless the contract requires prior Commonwealth approval; or
 - iii. Required for compliance with federal or state securities laws or the requirements of national securities exchanges; or
 - iv. Necessary for purposes of Contractor's internal assessment and review; or
 - v. Deemed necessary by Contractor in any action to enforce the provisions of this contract or to defend or prosecute claims by or against parties other than the Commonwealth; or
 - vi. Permitted by the valid authorization of a third party to whom the information, documents, reports, data, or records pertain: or
 - vii. Otherwise required by law.

- j. Contractor certifies that neither it nor any of its officers, directors, associates, partners, limited partners or individual owners has not been officially notified of, charged with, or convicted of any of the following and agrees to immediately notify the Commonwealth agency contracting officer in writing if and when it or any officer, director, associate, partner, limited partner or individual owner has been officially notified of, charged with, convicted of, or officially notified of a governmental determination of any of the following:
 - i. Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property.
 - ii. Commission of fraud or a criminal offense or other improper conduct or knowledge of, approval of or acquiescence in such activities by Contractor or any affiliate, officer, director, associate, partner, limited partner, individual owner, or employee or other individual or entity associated with:
 - 1. Obtaining;
 - 2. Attempting to obtain; or
 - 3. Performing a public contract or subcontractContractor's acceptance of the benefits derived from the conduct shall be deemed evidence of such knowledge, approval or acquiescence.
 - iii. Violation of federal or state antitrust statutes.
 - iv. Violation of any federal or state law regulating campaign contributions.
 - v. Violation of any federal or state environmental law.

- vi. Violation of any federal or state law regulating hours of labor, minimum wage standards or prevailing wage standards; discrimination in wages; or child labor violations.
- vii. Violation of the *Act of June 2, 1915 (P.L.736, No. 338)*, known as the *Workers' Compensation Act, 77 P.S. 1 et seq.*
- viii. Violation of any federal or state law prohibiting discrimination in employment.
- ix. Debarment by any agency or department of the federal government or by any other state.
- x. Any other crime involving moral turpitude or business honesty or integrity.

Contractor acknowledges that the Commonwealth may, in its sole discretion, terminate the contract for cause upon such notification or when the Commonwealth otherwise learns that Contractor has been officially notified, charged, or convicted.

- k. If this contract was awarded to Contractor on a non-bid basis, Contractor must, (as required by *Section 1641* of the *Pennsylvania Election Code*) file a report of political contributions with the Secretary of the Commonwealth on or before February 15 of the next calendar year. The report must include an itemized list of all political contributions known to Contractor by virtue of the knowledge possessed by every officer, director, associate, partner, limited partner, or individual owner that has been made by:
 - i. Any officer, director, associate, partner, limited partner, individual owner or members of the immediate family when the contributions exceed an aggregate of one thousand dollars (\$1,000) by any individual during the preceding year; or
 - ii. Any employee or members of his immediate family whose political contribution exceeded one thousand dollars (\$1,000) during the preceding year.

To obtain a copy of the reporting form, Contractor shall contact the Bureau of Commissions, Elections and Legislation, Division of Campaign Finance and Lobbying Disclosure, Room 210, North Office Building, Harrisburg, PA 17120.

- l. Contractor shall comply with requirements of the *Lobbying Disclosure Act, 65 Pa.C.S. § 13A01 et seq.*, and the regulations promulgated pursuant to that law. Contractor employee activities prior to or outside of formal Commonwealth procurement communication protocol are considered lobbying and subjects the Contractor employees to the registration and reporting requirements of the law. Actions by outside lobbyists on Contractor's behalf, no matter the procurement stage, are not exempt and must be reported.
- m. When Contractor has reason to believe that any breach of ethical standards as set forth in law, the Governor's Code of Conduct, or in these provisions has occurred or may occur, including but not limited to contact by a Commonwealth officer or employee which, if acted upon, would violate such ethical standards, Contractor shall immediately notify the Commonwealth contracting officer or Commonwealth Inspector General in writing.
- n. Contractor, by submission of its bid or proposal and/or execution of this contract and by the submission of any bills, invoices or requests for payment pursuant to the contract, certifies and represents that it has not violated any of these contractor integrity provisions in connection with the submission of the bid or proposal, during any contract negotiations or during the term of the contract.
- o. Contractor shall cooperate with the Office of Inspector General in its investigation of any alleged Commonwealth employee breach of ethical standards and any alleged Contractor non-compliance with these provisions. Contractor agrees to make identified Contractor employees available for interviews at reasonable times and places.

Contractor, upon the inquiry or request of the Office of Inspector General, shall provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by the Inspector General to Contractor's integrity and compliance with these provisions. Such information may include, but shall not be limited to, Contractor's business or financial records, documents or files of any type or form that refers to or concern this contract.

- p. For violation of any of these Contractor Integrity Provisions, the Commonwealth may terminate this and any other contract with Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of these provisions, claim damages for all additional costs and expenses incurred in obtaining another contractor to complete performance under this contract, and debar and suspend Contractor from doing business with the Commonwealth. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those the Commonwealth may have under law, statute, regulation, or otherwise.
- q. For purposes of these Contractor Integrity Provisions, the following terms shall have the meanings found in this Paragraph q.
 - i. "Confidential information" means information that a) is not already in the public domain; b) is not available to the public upon request; c) is not or does not become generally known to Contractor from a third party without an obligation to maintain its confidentiality; d) has not become generally known to the public through a act or omission of Contractor; or e) has not been independently developed by Contractor without the use of confidential information of the Commonwealth.
 - ii. "Consent" means written permission signed by a duly authorized officer or employee of the Commonwealth, provided that where the material facts have been disclosed, in writing, by pre-qualification, bid, proposal, or contractual terms, the Commonwealth shall be deemed to have consented by virtue of execution of this contract.
 - iii. "Contractor" means the individual or entity that has entered into this contract with the Commonwealth, including those directors, officers, partners, managers, and owners having more than a five percent interest in Contractor.
 - iv. "Financial interest" means:
 - 1. Ownership of more than a five percent interest in any business; or
 - 2. Holding a position as an officer, director, trustee, partner, employee, or holding any position of management.
 - v. "Gratuity" means tendering, giving or providing anything of more than nominal monetary value including, but not limited to, cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind. The exceptions set forth in the AOPC Code of Conduct shall apply.
 - vi. "Immediate family" means a spouse and any unemancipated child.
 - vii. "Non-bid basis" means a contract awarded or executed by the Commonwealth with Contractor without seeking bids or proposals from any other potential bidder or offeror.

- viii. "Political contribution" means any payment, gift, subscription, assessment, contract, payment for services, dues, loan, forbearance, advance or deposit of money or any valuable thing, to a candidate for public office or to a political committee, including but not limited to a political action committee, made for the purpose of influencing any election in the Commonwealth of Pennsylvania or for paying debts incurred by or for a candidate or committee before or after any election.

SECTION 25. PRODUCT DISRIMINATION

A. Reciprocal Limitation Act.

- 1. Background Requirements of the Act. The Act (62 Pa.C.S. (2008 Sup.) § 107) requires the AOPC:
 - i. In the award of contracts, exceeding \$10,000, for the erection, construction, alteration, improvement or repair of any building or other public work, or the purchase or lease of any goods, supplies, equipment, printing or materials, to give resident Bidders a preference against a nonresident Bidder from any state that gives or requires a preference to Bidders from that state. The amount of the preference shall be equal to the amount of the preference applied by the state of the nonresident Bidder. A resident Bidder is a person, partnership or corporation or other business entity authorized to transact business in Pennsylvania and having a bona fide establishment for transacting business within Pennsylvania at which it was transacting business on the date when bids for the public contract were first solicited.
 - ii. In the erection, construction, alteration, improvement or repair of any public building or other public work, and in all purchases of goods, supplies, equipment, printing or materials, not to specify, use or purchase any goods, supplies, equipment, printing or materials which are produced, manufactured, mined, grown or performed in any state that prohibits the specification for, use, or purchase of such items in or on its public building or other works, when such items are not produced, manufactured, mined, grown or performed in such state.

2. List of Discriminating States.

- i. States which apply preference favoring in-state Bidders and the amount of such preference, (that may affect this contract), as found by the Department of General Services.

<u>STATE</u>	<u>PREFERENCE</u>
Arizona	5% (construction materials from Arizona resident dealers only)
Montana	3%
West Virginia	2.5% for construction, repair or improvements of any buildings
Wyoming	5%

- ii. **States which prohibit the use of out-of-state goods, supplies, equipment, materials or printing and the prohibition (that may effect this contract), as found by the Department of General Services.**

<u>STATE</u>	<u>PREFERENCE</u>
Georgia	Forest products only
Indiana	Coal
New Jersey	For Bidders for the following items: major household appliances, chain link fence, portable sanitation units, glass, glazier supplies, storage batteries, carpet and cushion, shades, room air conditioning, electrical supplies, plumbing supplies, hardware supplies, fasteners, lumber, building supplies, audio-visual/video equipment, fire extinguishers, fire hose, motor oils, fuel oil, photographic supplies, Venetian blinds, drapes, paper towel dispensers, water hose
New Mexico	Construction

3. Calculations of Preference.

- i. In calculating the preference, the amount of a bid submitted by a Pennsylvania Bidder shall be reduced by the percentage preference which would be given to a nonresident Bidder by its state of residence. Similarly, the amount of a bid offering Pennsylvania goods, supplies, equipment, materials and printing shall be reduced by the percentage preference which would be given to another Bidder by the state where the goods, supplies, equipment, materials or printing are produced, manufactured, mined, grown or performed.

B. Trade Practices Act.

In accordance with the Trade Practices Act (71 P.S. §773.101 *et seq.*) the Contractor shall not use, or permit to be used, in the Work any aluminum or steel products made in a foreign country that discriminates against aluminum or steel products manufactured in Pennsylvania. The countries of Brazil, South Korea, Spain, and Argentina have been found to discriminate against certain products manufactured in Pennsylvania. Therefore, the purchase or use of those countries' products, as listed below, is not permitted for a project. Penalties for violation of this paragraph may be found in the Trade Practices Act. Penalties include becoming ineligible for award of any Public Works contracts for a period of three years.

- 1. Brazil:** Welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless steel products, including hot-rolled stainless steel bar; stainless steel wire rod and cold-formed stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet and cold-rolled carbon steel sheet.
- 2. Spain:** Certain stainless steel products, including stainless steel wire rod, hot-rolled stainless steel bars and cold-formed stainless steel bars; pre-stressed concrete steel wire strand; certain steel products including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes, galvanized carbon steel sheet; hot-rolled carbon steel bars and cold-formed carbon steel bars.
- 3. South Korea:** Welded carbon steel pipes and tubes; hot-rolled carbon steel plate and hot-rolled carbon steel sheet and galvanized steel sheet.
- 4. Argentina:** Carbon steel wire rod and cold-rolled carbon steel sheet.

C. Steel Products Procurement Act.

In accordance with the Steel Products Procurement Act of March 3, 1978, P.L. 6 as amended (73 P.S. §1881 *et seq.*), only steel products as defined in the Act shall be used or supplied in the performance of the contract or any subcontracts thereunder.

In the performance of the Contract the Contractor, subcontractors, materialmen or suppliers shall use only: 1) steel products, rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed by a combination of two or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, bessemer or other steel making process; and 2) cast iron products made in the United States.

The Contractor shall certify that all steel and cast iron products to be used or supplied in the performance of the Contract comply with this Act. No payment will be made to the Contractor for steel and cast iron products until such certification has been received.

This section shall not apply in any case where the Deputy Secretary for Public Works of the Department, in writing, determines that steel and/or cast iron products as herein described are not produced in the United States in sufficient quantities to meet the Contract needs.

The AOPC shall not provide for or make any payments to any person who has not complied with the Act. Any such payments made by the AOPC to anyone that should not have been made as a result of the Act, shall be recoverable directly from the contractor, subcontractor, manufacturer or supplier that did not comply with the Act.

In addition to the withholding of payments, any person who willfully violates any of the provisions of the Act shall be prohibited from submitting any bids to any public agency for a period of five (5) years from the date of the determination that a violation has occurred. In the event the person who violates the provisions of the Act is a subcontractor, manufacturer or supplier, such person shall be prohibited from performing any work or supplying any materials to a public agency for a period of five (5) years from the date of the determination that a violation has occurred.

The Contractor shall include the provisions of the Steel Products Procurement Act in every subcontract and supply contract, so that the provisions of the Act shall be binding upon each subcontractor and supplier.

Where trade names, catalog numbers and manufacturers of material or equipment are specified, they are mentioned therein for the purpose of establishing a standard of quality, performance and appearance, and for establishing a standard of competitive bidding. The use of this descriptive information will not relieve the contractor from compliance with all aspects of the Act.

SECTION 26. SMALL DIVERSE BUSINESS PARTICIPATION

A. Overview - Minimum Participation Level.

1. One minimum participation level (MPL) for utilization of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), Veteran Business Enterprises (VBEs), and Service-Disabled Veteran Business Enterprises (SDVBEs) (together referred to hereinafter as Small Diverse Businesses) subcontractors, manufacturers, and suppliers has been established for this project. This Small Diverse Business Participation (MPLs) applies when the amount bid exceeds \$50,000.

- i. The MPL is set forth in the Notice to Bidders. in the following form:

		MPL
.1	General Construction	7.5%
.2	Mechanical	7.5%
.4	Electrical	7.5%

2. Bidders are not required to submit a form regarding the MPL or solicitation efforts with the Bid Package.
3. The Administrative Procedures, which are included in the Contract Documents, have a chapter titled "Small Diverse Business Participation." Should there be any conflict between these Instructions to Bidders and the Administrative Procedures, the Administrative Procedures govern.
4. Upon Notice of Award, the successful bidder shall have the option of choosing to "Opt-in" or creating and maintaining documentation on its "Good Faith Effort" to meet the Project's MPL. (See: subsection B(1) below). The Contractor will have the full duration of their contract to meet the MPL.
5. The Contractor's commitments toward the MPL will be calculated and credited as follows:
 - i. **ONLY DGS-CERTIFIED SMALL DIVERSE BUSINESSES SHALL BE USED TO CALCULATE THE CONTRACTOR'S COMMITMENTS TO THE MPL.**
 - ii. A Contractor's Small Diverse Business participation level is calculated by adding all dollar commitments to DGS-certified Small Diverse Business subcontractors of all tiers, DGS-certified Small Diverse Business manufacturers, and DGS-certified Small Diverse Business suppliers and dividing that total amount by the total contract award price. Small Diverse Business dollar commitments will not be double counted (see Section 5(vii) below).
 - iii. Small Diverse Business subcontractors performing at least sixty percent (60%) of the subcontract with their own employees will be credited toward the MPL at 100 percent of the total dollar value of the subcontract/supply contract. Any Small Diverse Business subcontract, where the subcontractor performs less than 60% of the subcontract, will not be credited toward the MPL.
 - iv. Small Diverse Business stocking suppliers are credited at 60 percent of the total cost of the materials or supplies purchased. A stocking supplier is a regular dealer that owns, operates, or maintains a store, warehouse, or other establishment, in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.
 - v. Small Diverse Business nonstocking suppliers are credited at only the amount of the fee or commission charged by the Small Diverse Business nonstocking supplier for assistance in the procurement of the materials and supplies provided the fees or commissions are reasonable and not excessive as compared with fees customarily allowed for similar services and with the understanding that under no circumstances shall the credit, for a Small Diverse Business nonstocking supplier, exceed 10% of the purchase order cost. A nonstocking supplier does not carry inventory but orders materials from a manufacturer, manufacturer's representative or a stocking supplier. In order for a nonstocking supplier to receive credit, it must perform a useful business function by engaging in meaningful work (i.e., negotiating price; AND determining quality and quantity; AND ordering materials; AND paying for the materials) and the fee or commission must be provided with the purchase order and the Small Diverse Business Utilization Report. Industry practices and other relevant factors will be considered.

- vi. Small Diverse Business manufacturers are credited at 100 percent of the total cost of the materials or supplies purchased.
- vii. All Small Diverse Business participation shall include all tiers of design and/or construction.
 - 1. The Contractor is allowed to use contract amounts at any tier of supply or subcontracting provided that the Small Diverse Business is the initial Small Diverse Business firm in the organizational hierarchy. Therefore, if the Contractor or any of its non-Small Diverse Business Subcontractors or Suppliers makes a commitment to a Small Diverse Business, the credit for the subcontract/purchase order commitment, regardless of the level or tier, shall be calculated as indicated in Section 5 and credited toward the Contractor's Minimum Participation Level.
 - 2. The dollar value of any commitment to a Small Diverse Business cannot be double counted. In the event that the Small Diverse Business whose entire subcontract value is counted towards the Contractor's Participation Level then subcontracts a portion of the work or supplies associated with this subcontract to another Small Diverse Business, the dollar value of the subcontract with/to this lower tier Small Diverse Business is NOT counted in the Contractor's Participation Level in order to prevent the duplicate counting of Small Diverse Business commitment dollars. In this case, the dollar value of this subsequent Small Diverse Business subcontract has already been included within the scope of work and dollar value of the Small Diverse Business commitment already counted as a part of the Contractor's Participation Level.

B. Upon Notice of Award.

- 1. The successful bidder shall, upon Notice of Award and receipt of the Construction Contract, determine whether to choose "opt-in" or to provide "Good Faith Effort" documentation of its efforts to meet the MPL by initialing the appropriate selection in Article 9 of the Construction Contract. (See Administrative Procedures for further information.)
 - i. Opt-in – A successful bidder selecting "Opt-in" agrees to meet or exceed the Project's MPL by the time of the Close-out Inspection of the project.
 - ii. Good Faith Effort – A successful bidder selecting "Good Faith Effort" agrees to document its use of reasonable efforts to identify, solicit, and secure commitments with Small Diverse Businesses on all subcontractors, manufacturers, and suppliers greater than \$10,000 throughout the duration of the Project.
- 2. Article 9 of the Construction Contract lists both "Opt-in" and the "Good Faith Effort" options. The successful bidder shall select and initial the option of their choice. Failure to select an option will be deemed an incomplete Contract and the AOPC may consider this a failure to execute the Contract (See Sections 28 and 29).

C. Upon Contract Execution.

- 1. If Opt-in was selected, the Contractor has until the time of Close-Out Inspection to meet or exceed the MPL for the Project. This will be tracked through the Small Diverse Business Utilization Report submitted with each Application for Payment.
- 2. If the Good Faith Effort was selected, the Contractor must create and maintain documentation of its reasonable efforts to identify, solicit, and secure commitments with Small Diverse Businesses on all subcontractors and suppliers greater than \$10,000 throughout the duration of the Project. At a minimum, such documentation shall include the following ("Good Faith Effort documentation"):

- i. A certification that the contractor accessed the DGS web site database of DGS-certified Small Diverse Businesses to identify DGS-certified Small Diverse Businesses for the subcontract or purchase order.
- ii. A record of all companies solicited for the subcontract or purchase order that can perform the scope of work to be subcontracted or supply to be delivered, identifying any DGS-certified Small Diverse Businesses. If a subcontractor is not properly licensed or otherwise capable of performing the scope of work, they are not eligible to receive the subcontract. (A painting subcontractor, for example, may not be eligible to receive a subcontract to perform electrical work.)
- iii. A record of all quotes received showing company name and address, contact person, telephone number, Small Diverse Business status, subcontractor, manufacturer, or supplier, scope of work to be performed or supply to be delivered, and the amount of the quote and identification of the selected subcontractor/manufacturer/supplier.
- iv. A certification that the contractor negotiated fairly with responsive DGS-certified Small Diverse Businesses and, if commitments were not made, that such non-commitment related to the Small Diverse Business' capability or price.

Upon notice from the AOPC, the Contractor will be required to submit, within ten (10) calendar days from the date such notice is received, the above Good Faith Effort documentation for review and compliance. Failure to submit such documents within the timeframe provided will result in a noncompliance entry into the Commonwealth's Contractor Responsibility Program and may be considered a substantial breach of the Contract, as determined by the Department.

3. Small Diverse Business Utilization Report

- i. The Contractor, regardless of the option it selects, shall submit a Small Diverse Business Utilization Report with each Application for Payment. Each Small Diverse Business Utilization Report must have current data (totals to date) identifying at least each element as follows:

- 1. Detailed information including but not limited to any subcontracts and purchase orders documenting the dollar value commitments, commission, or fees to Small Diverse Business firms to be used toward the satisfaction of the Project's MPL. All Small Diverse Businesses identified on the Utilization Report shall be retained on the Utilization Report throughout the duration of the Project.
- 2. Detailed information regarding any work that is claimed to be self-performed by the Contractor and therefore allegedly not eligible for subcontracting to a Small Diverse Business.

3. Construction Subcontracts and Purchase Orders:

- a. All Subcontract/Purchase Orders awarded to date are \$_____
- b. Commitments to Small Diverse Businesses totals to date:
 - i. \$ _____(dollars)
 - ii. % _____(percentage)
- c. For each Small Diverse Business subcontract and purchase order awarded since the previous Application for Payment the:

- i. Identity and status of the Small Diverse Business as a MBE/WBE/VBE/SDVBE that will be performing the work; and
 - ii. The type of work, service, or material to be performed/supplied; and
 - iii. The amount paid to date on each Small Diverse Business subcontract/purchase order this month; and
 - iv. The designation of Small Diverse Business stocking suppliers as either a MEP (i.e., mechanical, electrical, and plumbing) stocking suppliers or a General Construction stocking supplier; and
 - v. The fee or commission paid to the non-stocking supplier. No MPL credit will be given if the fee or commission is not listed and, the maximum credit shall not exceed 10 percent of the purchase order cost.
- ii. Failure to submit a Small Diverse Business Utilization Report with each Application for Payment will result in an incomplete Application for Payment and it being returned to the Contractor. An incomplete Application for Payment will not be processed.

D. Resources.

1. The Department of General Services is available for technical assistance to all Bidders submitting bids for this contract. Department certification of an entity as a Small Diverse Business means only that the applicant for certification has submitted information that qualifies it as an Small Diverse Business in terms of its ownership and control. It does not imply, and no Bidder shall infer, that the Department of General Services has in any way investigated or approved the entity's competence to perform work.
2. Contact the Bureau of Diversity, Inclusion and Small Business Opportunities at (717) 783-3119.

Bureau of Diversity, Inclusion and Small Business Opportunities
401 North Street, Room 601
Harrisburg, PA 17120-0500

SECTION 27. PRE-AWARD OF CONTRACT. Once the AOPC determines the apparent lowest responsible bidder, the Bidder must comply with the Public Works Employment Verification Act by submitting to the AOPC a Commonwealth Public Works Verification Form ("Form") prior to the award of the Contract. The Bidder shall either provide the Form to the AOPC with its Bid Proposal or within three (3) days after receipt of notice to provide the Form. Failure or refusal to provide the Form will be considered a refusal to comply with the bidding requirements and result in rejection of the bid. **The bidder shall be required to pay the AOPC the lesser of the following amounts:**

- A. The difference between the amounts specified in the bid of the lowest responsible Bidder and such larger amount for which the AOPC may enter into a contract with another party to perform the Work covered by said bid.

The Form and relevant information are located on the Department of General Services web page at www.dgs.state.pa.us.

SECTION 28. AWARD OF CONTRACT. If the AOPC awards a Contract, it will be made to the lowest responsible Bidder within sixty (60) days from the Bid Opening Date. This 60-day period may be extended by written consent of the lowest responsible Bidder(s). Notice of Award of Contract will be made by letter mailed to the Contractor and will be effective upon the date the AOPC mailed the Notice of Award. If the lowest Bidder withdraws its bid, declines to extend the bid or refuses the Award of Contract, the AOPC may award the Contract to the next lowest responsible Bidder or reject all bids and re-bid the Contract. **There will be no Contract with the AOPC until all parties have fully executed the Contract**

- A. Letter of Intent To Contract** – The AOPC may, in its sole discretion on particular projects, elect to issue a binding Letter of Intent To Contract. An apparent low bidder who receives a Letter of Intent may rely upon the letter to start the scope of off-site activities described in the Letter and to incur costs in preparation of the performance of the Contract.

SECTION 29. EXECUTION OF CONTRACT, SMALL DIVERSE BUSINESS PARTICIPATION, BOND AND RETURN OF INSURANCE CERTIFICATES. Within ten (10) days after receipt of the Contract, the successful Bidder, must:

- A.** Select the Small Diverse Business MPL option in Article 9 of the Contract; and
- B.** Sign and return the Contract to the AOPC, Pennsylvania Judicial Center, 601 Commonwealth Avenue, Suite 2300, Harrisburg, Pennsylvania 17120; and
- C.** Sign and return a Contract Bond, or Bonds, on the form provided by the AOPC, in the penal sum equal to the amount of the awarded Contract, for the faithful performance of the Contract, and to cover the prompt payment in full for all materials furnished and labor supplied or performed, and equipment actually rented (but not sold.) The Bond, or Bonds, must be executed by a surety company or companies qualified to do business in Pennsylvania; and,
- D.** Sign and return all insurance certificates required by the General and/or Special Conditions to the Contract.
- E.** After all Commonwealth signatures (handwritten or electronic) are obtained and the Contract is fully executed, the AOPC will forward a written notification to you.
- F.** Understand and agree that a stamped “APPROVED ELECTRONICALLY” or similar wording by the Commonwealth on the Contract signature page constitutes a valid, binding contract with the Commonwealth and represents that all approvals required by Commonwealth contracting procedures have been obtained. The fully executed Contract may not contain “ink” signatures by the Commonwealth.

SECTION 30. FAILURE TO EXECUTE CONTRACT. Failure or refusal of the Contractor to properly execute the Contract Documents including selecting an MPL option in Article 9 and/or to furnish the required Bonds and/or to furnish the required insurance certificates within the 10-day time will be viewed as a refusal to accept the Award.

If the successful Bidder fails or refuses to properly execute the Contract Documents including selecting an MPL option in Article 9 and/or to furnish the required Bonds and/or to furnish the required insurance certificates within the 10-day time, the AOPC may award the Contract to the next lowest responsible Bidder or reject all bids and re-bid the Contract.

SECTION 31. PROOF OF SURETY’S RESPONSIBILITY ON CONTRACT BOND. The surety company, which is designated by the lowest responsible Bidder for the faithful performance of the contract and prompt payment of materials, equipment and labor, shall, with its Contract Bond, furnish to the AOPC a certificate showing that the amount of the Bond is within the limit of net retention, or evidence that appropriate reinsurance or other security has been obtained in conformance with Section 661 of the Pennsylvania Insurance Company Law of 1921 (40 P.S. § 832).

SECTION 32. REINSURANCE. If the surety has entered into an agreement for reinsurance under the foregoing paragraph, the bond shall be supported by a duplicate original of the reinsurance agreement. The reinsurance agreement must contain a "direct liability to insured" clause, enabling the AOPC to maintain an action against the company reinsured jointly with the reinsurer, and, upon recovering judgment against such reinsured, to have recovery against such reinsurer, for payment to the extent to which it is liable under such reinsurance and in discharge thereof.

SECTION 33. VETERAN'S PREFERENCE. The AOPC strongly encourages that, all things being equal, contractors give preference in employment on projects of the AOPC to veterans of the Armed Services of the United States of America.

SECTION 34. SMALL BUSINESS SUPPLIER PREFERENCE. The AOPC strongly encourages that, all things being equal, contractors give preference in material/equipment purchases on this project to Small Business Suppliers.

SECTION 35. PROVISIONS CONCERNING THE AMERICANS WITH DISABILITIES ACT. During the term of this contract, the Contractor agrees as follows:

- A. Pursuant to federal regulations promulgated under the authority of The Americans with Disabilities Act, 28 C.F.R. 35.202 et seq., the contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in this contract or from such activities provided for under this contract. As a condition of accepting and executing this contract, the Contractor agrees to comply with the "General Prohibitions Against Discrimination," 28 C.F.R. 35.130, and all other regulations promulgated under Title II of The Americans with Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the Commonwealth of Pennsylvania through contracts with outside contractors.
- B. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Commonwealth of Pennsylvania from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Commonwealth of Pennsylvania as a result of the Contractor's failure to comply with the provisions of paragraph A above.

SECTION 36. ENVIRONMENTAL STATEMENT. According to the Commonwealth Procurement Code, Act of May 15, 1998, P.L. 358, No. 57, 62 Pa.C.S. §§ 101-4509, all invitations for bids and requests for bids for construction projects issued by any government agency shall set forth any provision of Federal and State statutes, rules and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources that affect the projects.

SECTION 37. APPLICABLE LAWS. The Bidder is hereby notified that this Project is subject to those statutes, rules and regulations shown on the following list and the Work must be carried out in compliance with these statutes, rules and regulations.

STATE LAW

I. Purdon's Statutes - Title 3 (Agriculture)

Fertilizer Act, Act of Dec. 13, 2001, 3 Pa.C.S.A. § 6701, et seq.

Soil and Plant Amendment Act, Act of Dec. 13, 2001, 3 Pa.C.S.A. § 6901, et seq.

PA Pesticide Control Act of 1973, Act of March 1, 1974 as amended, 3 P.S. § 111.21, et seq.

Agricultural Liming Materials Act, Act of March 17, 1978, as amended, 3 P.S. § 132-1, et seq.

The PA Plant Pest Act of 1992, Act of December 16, 1992 as amended, 3 P.S. § 258.1, et seq.

Noxious Weed Control Law, Act of April 7, as amended, 3 P.S. § 255.1, et seq.

Conservation District Law, Act of May 15, 1945 as amended, 3 P.S. § 849, et seq.

(Relating to weather modification), Act of January 19, 1968, as amended, 3 P.S. § 1101, et seq.

II. Purdon's Statutes - Title 16 (Counties)

(Relating to land use), Act of January 13, 1966 as amended, 16 P.S. § 11941, et seq.

III. Purdon's Statutes - Title 18 (Crimes and Offenses)

The Crimes Code, Act of December 6, 1972, as amended, 18 Pa. C.S.A. § 101, et seq.

IV. Purdon's Statutes - Title 24 (Education)

Public School Code of 1949, Act of March 10, 1949, as amended, 24 P.S. § 7-731, et seq.

V. Purdon's Statutes - Title 30 (Fish)

The Fish and Boat Code, Act of October 16, 1980, as amended, 30 Pa. C.S.A. § 101, et seq.

VI. Purdon's Statutes - Title 32 (Forests, Waters and State Parks)

(Relating to water power and water supply permits), Act of June 14, 1923, as amended, 32 P.S. § 591, et seq.

Water Well Drillers License Act, Act of May 29, 1956, as amended, 32 P.S. § 645.1, et sec.

(Relating to Flood Control), Act of August 7, 1936, as amended, 32 P.S. § 653, et seq.

Flood Plain Management Act, Act of October 4, 1978, as amended, 32 P.S. § 679.101, et seq.

Storm Water Management Act, Act of October 4, 1978, as amended, 32 P.S. § 680.1, et seq.

Dam Safety and Encroachments Act, Act of November 26, 1978, as amended, 32 P.S. § 693.1, et seq.

(Relating to Stream Clearance), Act of June 5, 1947, as amended, 32 P.S. § 701, et seq.

(Relating to Potomac River Pollution), Act of May 29, 1945 (P.L. 1134, § 1), as amended, 32 P.S. 741 et seq. *Repealed in Part.* Section 4 of Act 1981, May 1, P.L. 22 No. 9, repeals this section to "the extent it required one of the members of the Interstate Commission on the Potomac River Basin to be a member of the Pennsylvania Commission on Interstate Cooperation."

(Relating to Schuylkill River pollution), Act of June 4, 1945, as amend., 32 P.S. § 751.1, et seq.

(Relating to Delaware River pollution) Act of April 19, 1945 as amend. 32 P.S. § 815.31, et seq.

Delaware River Basin Compact, Act of July 7, 1961, as amended, 32 P.S. § 815.101, et seq.

Ohio River Valley Water Sanitation Compact, Act of April 2, 1945, as amended, 32 P.S. § 816.1, et seq.

Great Lakes Basin Compact, Act of March 22, 1956, as amended, 32 P.S. § 817.1, et seq.

Brandywine River Valley Compact, Act of September 9, 1959, as amend. 32 P.S. § 818, et seq.

Wheeling Creek Watershed Protection and Flood Prevention District Compact, Act of August 2, 1967, as amended, 32 P.S. § 819.1, et seq.

Susquehanna River Basin Compact, Act of July 17, 1968, as amended, 32 P.S. § 820.1, et seq.

Chesapeake Bay Comm. Agreement, Act of June 25, 1985, as amended, 32 P.S. § 820.11, et seq.

(Relating to Preservation and Acquisition of Land for Open Space Uses), Act of January 19, 1968, as amended, 32 P.S. § 5001, et seq.

Land and Water Conservation and Reclamation Act, Act of January 19, 1968, § 2), as amended, 32 P.S. § 5101, et seq.

Bluff Recession and Setback Act, Act of May 13, 1980, as amended, 32 P.S. § 5201, et seq.

Wild Resource Conservation Act, Act of June 23, 1982, as amended, 32 P.S. § 5301, et seq.

VII. Purdon's Statutes - Title 34 (Game)

The Game and Wildlife Code, Act of July 8, 1986, as amended, 34 Pa. C.S.A. § 101, et seq.

VIII. Purdon's Statutes - Title 35 (Health and Safety)

(Related to public eating and drinking places), Act of May 23, 1945, as amended, 35 P.S. 655.1 et seq. *Repealed in Part.* Section 6(b) of Act 1994, repealed this section in so far as it is inconsistent with said act (3 Pa.C.S.A. § 6501, et seq.).

The Public Bathing Law, Act of June 23, 1931, as amended, 35 P.S. § 672, et seq.

(Related to the protection of public water supply), Act of June 22, 1937, as amended, 35 P.S. § 691.1, et seq.

PA Safe Drinking Water Act, Act of May 1, 1984, as amended, 35 P.S. § 721.1, et seq.

PA Sewage Facilities Act, Act of January 24, 1966 as amended, 35 P.S. § 750.1, et seq. Repealed in Part. Section 15 of Act 1990, July 1, repealed this section insofar as it relates to fee payments.

PA Solid Waste-Resource Recovery Development Act, Act of July 20, 1974, as amended, 35 P.S. § 755.1, et seq.

(Related to pollution from abandoned mines), Act of December 15, 1965 as amended, 35 P.S. § 760.1, et seq.

Low-Level Radioactive Waste Disposal Act, Act of February 9, 1988, as amended, 35 P.S. § 7130.101, et seq.

(Related to Camp Regulation), Act of November 10, 1959 as amended 35 P.S. § 3001, et seq.

Air Pollution Control Act, Act of January 8, 1960, as amended 35 P.S. § 4001, et seq.

Solid Waste Management Act, Act of July 7, 1980 as amended, 35 P.S. § 6018.101, et seq. *Repealed in Part.* Section 905(b) of Act 1988, Feb. 9, the Low-Level Radioactive Waste Disposal Act (35 P.S. § 7130.101, et seq.), repealed this section insofar as it is inconsistent with said act.

Radiation Protection Act, Act of July 10, 1984, as amended, 35 P.S. 7110.101, et seq. *Repealed in Part.* Section 17(b) of Act 1992, Dec. 18, provides that this section is repealed insofar as it is inconsistent with said act.

Worker and Community Right-to-Know Act, Act of October 5, 1984 as amended, 35 P.S. § 7301, et seq.

IX. Purdon's Statutes - Title 36 (Highways and Bridges)

State Highway Law, Act of June 1, 1945, as amended, 36 P.S. § 670-101, et seq. *Repealed in Part.* Section 4 of Act 1985, July 3, repealed this act insofar as it's inconsistent with said act.

Junkyards along Highways), Act of July 28, 1966, as amended, 36 P.S. § 2719.1, et seq.

Highway Vegetation Control Act of December 20, 1983 as amended, 36 P.S. § 2720.1, et seq.

X. Purdon's Statutes – Title 37 APPENDIX (Historical & Museums)

History Code, Act of May 26, 1988, as amd, 37 Pa.C.S.A. § 101, et seq.

XI. Purdon's Statutes - Title 43 (Labor)

(Related to General Safety), Act of May 18, 1937, as amended, 43 P.S. § 25-1, et seq.

Seasonal Farm Labor Act, Act of June 23, 1978, as amended, 43 P.S. § 1301.101, et seq.

XII. Purdon's Statutes - Title 52 (Mines and Mining)

The Coal Mine Sealing Act of 1947, Act of June 30, 1947, as amended, 52 P.S. § 28.1, et seq.

Coal Refuse Disposal Control Act of September 24, 1968, as amended, 52 P.S. § 30.51, et seq.

(Related to Coal Land Improvement), Act of July 19, 1965, as amended, 52 P.S. § 30.101, et seq.

(Related to Mine Fires & Subsidence), Act of April 3, 1968, as amd. 52 P.S. § 30.201, et seq.

PA Anthracite Coal Mine Act, Act of November 10, 1965 as amended, 52 P.S. § 70-101, et seq.

(Related to discharge of coal into streams), Act of June 27, 1913 as amended, 52 P.S. § 631, et seq.

(Caving-in, Collapse, Subsidence), Act of May 27, 1921, as amended, 52 P.S. § 661, et seq.

(Related to Subsidence), Act of September 20, 1961 as amended, 52 P.S. § 672.1, et seq.

Anthracite Strip Mining and Conservation Act, Act of June 27, 1947 as amended, 52 P.S. § 681.1, et seq. *Repealed in Part.* Section 16 of Act 1971, Nov. 30, provided that this section repealed insofar as it is inconsistent with Act No. 147.

(Related to control and drainage of water from coal formations), Act of July 7, 1955 as amended, 52 P.S. § 682, et seq.

PA Bituminous Coal Mine Act, Act of July 17, 1961 as amended, 52 P.S. § 701-101, et seq.

(Related to Abandoned Mines), Act of May 7, 1935, as amended, 52 P.S. § 809, et seq.

(Related to maps and plans of mines), Act of June 15, 1911, as amended, 52 P.S. § 823.

Surface Mining Conservation and Reclamation Act, Act of May 31, 1945 as amended, 52 P.S. § 1396.1 et seq. *Repealed in Part.* Section 27 of Act 1984, Dec. 19, provides that, except as provided in § 3304 of this title, this section "is repealed to the extent that it applies to the surface mining of minerals other than bituminous and anthracite coal."

The Bituminous Mine Subsidence and Land Conservation Act, Act of April 27, 1966, as amended, 52 P.S. § 1406.1, et seq.

(Related to cave-in or subsidence of surface above mines), Act of July 2, 1937, as amended, 52 P.S. § 1407, et seq.

(Related to Coal Stripping), Act of June 18, 1941 as amended, 52 P.S. § 1471, et seq.

(Related to Coal under State Lands), Act of June 1, 1933 as amended, 52 P.S. § 1501, et seq.

(Related to Mining Safety Zones), Act of Dec. 22, 1959 as amended, 52 P.S. § 3101, et seq.

(Related to Coal Mine Subsidence Insurance Fund), Act of August 23, 1961 as amended, 52 P.S. § 3201, et seq.

Interstate Mining Compact, Act of May 5, 1966 as amended, 52 P.S. § 3251, et seq.

Noncoal Surface Mining Conservation and Reclamation Act, Act of December 19, 1984, as amended, 52 P.S. § 3301, et seq.

XIII. Purdon's Statutes - Title 58 (Oil and Gas)

Oil and Gas Conservation Law, Act of July 25, 1961 as amended, 58 P.S. § 401, et seq.

PA Used Oil Recycling Act, Act of April 9, 1982, as amended, 58 P.S. § 471, et seq.

Coal & Gas Resource Coord. Act, Act of Dec.18, 1984, as amended, 58 P.S. § 501, et seq.

Oil and Gas Act, Act of December 19, 1984, as amended, 58 P.S. § 601.101, et seq. Repealed in part. Section 4 of Act 1985, July 11, repealed this act insofar as inconsistent with said act.

XIV. Purdon's Statutes Title 63 (Professions and Occupations)

Sewage Treatment Plant and Waterworks Operators' Certification Act, Act of November 18, 1968 as amended, 63 P.S. § 1001, et seq.

XV. Purdon's Statutes - Title 64 (Public Lands)

PA Appalachian Trail Act, Act of April 28, 1978, as amended, 64 P.S. § 801, et seq.

XVI. Purdon's Statutes - Title 71 (State Government)

The Administrative Code of 1929, Act of April 9, 1929 as amended, 71 P.S. § 51, et seq.

XVII. Purdon's Statutes - Title 72 (Taxation and Fiscal Affairs)

Project 70 Land Acquisition and Borrowing Act, Act of June 22, 1964 as amended, 72 P.S. § 3946.1, et seq.

(Related to pollution control services), Act of March 4, 1971 as amended, 72 P.S. § 7602.1, et seq.

XVIII. Purdon's Statutes - Title 73 (Trade and Commerce)

Infrastructure Development Act, Act of July 11, 1996, as amended, 73 P.S. § 393.21, et seq.

(Related to Explosives), Act of July 1, 1937 as amended, 73 P.S. § 151, et seq.; *Suspended in Part.* This section is suspended insofar as it is in conflict with the provisions of Reorganization Plan No. 8 of 1981. See 71 P.S. § 751-35.

(Related to Explosives), Act of July 10, 1957 as amended, 73 P.S. § 164, et seq. *Suspended in Part.* Section 164 is suspended insofar as it is in conflict with the provisions of Reorganization Plan No. 8 of 1981. See 71 P.S. § 751-35.

(Related to Black Powder), Act of May 31, 1974, 73 P.S. § 169 et seq.

(Related to excavation and demolition), Act of Dec.10, 1974 as amended, 73 P.S. § 176, et seq.

XIX. Purdon's Statutes - Title 75 (Vehicles)

Vehicle Code, Act of June 17, 1976, as amended., 75 Pa. C.S.A. § 101, et seq.

Snowmobile Law, Act of June 17, 1976, as amended, 75 Pa. C.S.A. § 7701, et seq.

(Related to hazardous materials transport), Act of June 30, 1984, 75 Pa. C.S.A. § 8301, et seq.

XX. Purdon's Statutes - Title 77 (Workmen's Compensation)

Workers' Compensation Act, Act of June 2, 1915 as amended, 77 P.S. § 1, et seq.

PA Occupational Disease Act, Act of June 21, 1939, as amended, 77 P.S. § 1201, et seq.

XXI. Other Statutes

(Relating to Medical Waste-Manifesting and Transporter Licensing), Act of July 13, 1988, 35 P.S. § 6019.1, et seq.

Municipal Waste Planning, Recycling and Waste Reduction Act, Act of July 28, 1988, 53 P.S. § 4000.1501.

Hazardous Sites Cleanup Act, Act of October 18, 1988, 35 P.S. § 6020.101.

XXII. Pennsylvania Constitution - Article I, Section 27 (Adopted May 18, 1971)

FEDERAL LAW

Acid Precipitation Act of 1980 (42 U.S.C. § 8901-8912).

Act to Prevent Pollution from Ships (33 U.S.C. § 1901-1915).

Americans with Disabilities Act, (42 U.S.C. § 12101-12213 and 47 U.S.C. § 225 and 611).

Asbestos Haz. Emerg. Response Act of 1986 [see Toxic Substances Control Act secs. 201-214 (15 U.S.C. § 2641-2656)].

Atomic Energy Act of 1954 (42 U.S.C. § 2014, 2021, 2021a, 2022, 2111, 2113, 2114).

Aviation Safety and Noise Abatement Act of 1979 (49 U.S.C. § 47501-47510).

Clean Air Act (42 U.S.C. § 7401-7642).

Clean Water Act [see Federal Water Pollution Control Act].

Coastal Zone Management Act of 1972 (16 U.S.C. § 1451-1466).

Comp.Env. Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9601-9675).

Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. § 11001-11050).

Energy Supply and Environmental Coordination Act of 1974 (15 U.S.C. § 791-798).

Environmental Quality Improvement Act of 1970 (42 U.S.C. § 4371-4375).

Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136-136y).

Federal Land Policy and Management Act of 1976 (43 U.S.C. § 1701-1784).

Federal Water Pollution Control Act (33 U.S.C. § 1251-1387)

Geothermal Energy R& Development, Demonstration Act of 1974 (30 U.S.C. § 1101-1164).

Global Climate Protection Act of 1987 (15 U.S.C. § 2901 note).

Hazardous Substance Response Revenue Act 1980 (see 26 U.S.C. § 4611, 4612, 4661, 4662).

Low-Level Radioactive Waste Policy Act (42 U.S.C. § 2021b-2021d).

Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. § 1401-1445)

National Climate Program Act (15 U.S.C. § 2901-2908).

National Environmental Policy Act of 1969 (42 U.S.C. § 4321-4370f).

Noise Control Act of 1972 (42 U.S.C. § 4901-4918).

Nuclear Waste Policy Act of 1982 (42 U.S.C. § 10101-10270).

Outer Continental Shelf Land Act Amendments of 1978 (43 U.S.C. § 1801-1866).

Public Health Service Act (42 U.S.C. § 300f-300j-11).

Safe Drinking Water Act [Public Health Service Act 1401-1451 (42 U.S.C. § 300f-300j-26)].

Soil and Water Resources Conservation Act of 1977 (16 U.S.C. § 2001-2009).

Solid Waste Disposal Act (42 U.S.C. § 6901-6991i).

Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. § 1201-1328)

Toxic Substances Control Act (15 U.S.C. § 2601-2692).

Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. § 7901-7942).

Water Resources Research Act of 1984 (42 U.S.C. § 10301-10309).

**STANDARD FORM OF CONTRACT,
CONTRACT BOND,
AND
GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

**HARRISBURG, PENNSYLVANIA
SEPTEMBER 2013 EDITION**

THE ADMINISTRATIVE OFFICE OF PENNSYLVANIA COURTS WILL USE THE DEPARTMENT OF GENERAL SERVICES GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, SEPTEMBER 2013 EDITION, IN ADMINISTERING THIS PROJECT.

ALL REFERENCES IN THE GENERAL CONDITIONS TO DGS OR DEPARTMENT SHALL BE AMENDED TO AOPC. ALL REFERENCES TO ADDRESS OF DGS SHALL BE AMENDED TO THE ADDRESS OF THE AOPC, 601 COMMONWEALTH AVENUE, HARRISBURG, PA 17120.

STANDARD FORM OF CONSTRUCTION CONTRACT BETWEEN THE AOPC AND CONTRACTOR

This CONTRACT, executed this _____ day of _____ 20 ____, by and
between the Administrative Office of the Pennsylvania Courts, hereinafter called "AOPC" and

at this address:

a corporation incorporated under the Laws of the State of _____ its
successors and assigns, hereinafter called "CONTRACTOR".

OR

This CONTRACT, executed this _____ day of _____ 20 ____, by
and between the AOPC, hereinafter called "AOPC" and _____

at this address:

his, her or their heirs, executors, administrators and assigns, hereinafter called "CONTRACTOR".

ARTICLE 1 – THE CONTRACT DOCUMENTS

The Contract Documents consist of the Standard Form of Contract, the Notice to Bidders, the Instructions to Bidders, the Contractor's entire proposal, the Contract Bonds, the Conditions of the Contract (General, Special, Supplementary, and other Conditions), the drawings of all Prime Contracts, the specifications of all Prime Contracts, all bulletins and addenda issued prior to execution of the Standard Form of Contract, all change orders, all schedules, and the Administrative Procedures of the Department of General Services Bureau of Construction. These form the Contract and are incorporated by reference as if fully set forth herein. To the extent that any of these documents are amended by statute, the statutory language will control.

ARTICLE 2 – THE WORK

The Contractor shall perform all the Work required by the Contract Documents for the construction of _____

ARTICLE 3 – PROFESSIONAL

The Professional for this Project is _____

ARTICLE 4 – TIME OF COMMENCEMENT AND COMPLETION

The contract duration for this Contract is 125 calendar days and shall commence upon the date which the Initial Job Conference is held for the Project or by the date established by the Letter of Intent (if issued). The Contractor shall commence operations on site on site no later than ten (10) days after the Initial Job Conference or by the date established by the Letter of Intent (if issued) and shall complete all Contract Work to the satisfaction and approval of the AOPC, on or before the milestones established in the Project Schedule. Contractor further agrees that time is of the essence of this Contract, and that, if the Contractor fails to complete the Work within the time specified above, the Contractor will pay the AOPC, as Liquidated Damages, and not as a penalty for such failure, the sum of Five Hundred dollars (\$500.00) per day for each and every calendar day after the selected interim milestone dates and the contract completion date until the Work is completed and accepted. The AOPC may extend the selected interim milestone dates or the completion date of the Contract for causes set forth in the General Conditions of the Construction Contract and, which, in fact, delay the completion of said Work. In such case, Contractor is liable for said Liquidated Damages only after the expiration of the extended period.

ARTICLE 5 – CONTRACT SUM

The AOPC will pay the Contractor for the performance of the Work, subject to additions and deductions by change order, as provided in the General Conditions of the Construction Contract, the contract sum of _____ dollars (\$_____). Payment will be made as set forth in the General Conditions of the Construction Contract. Deductions from or additions to this sum will be made as set forth in the General Conditions of the Construction Contract.

ARTICLE 6 – PROGRESS PAYMENTS and RETAINAGE

Based upon Applications for Payment submitted to the AOPC by the Contractor, the AOPC will make progress payments on account of the Contract Sum to the Contractor, in accordance with the provisions of the Prompt Payment Schedules found in the Commonwealth Procurement Code, 62 Pa. C.S. §3931-§3939, and the Administrative Procedures, which both are incorporated herein by reference and made a part hereof as if those provisions were fully and at length herein recited, except that, where those provisions refer to the government agency, it is deemed to refer to the AOPC. The AOPC will retain a portion of the amount due the contractor to insure the proper performance of the contractor in each Application for Payment in accordance with the provisions of Retainage found in the Commonwealth Procurement Code, 62 Pa. C.S. §3921, and the General Conditions of the Construction Contract, which both are incorporated herein by reference and made a part hereof as if those provisions were fully and at length herein recited, except that, where those provisions refer to the government agency, it is deemed to refer to the AOPC.

ARTICLE 7 – FINAL PAYMENT

The Final payment, constituting the entire unpaid balance of the Contract Sum, will be paid by the AOPC to the Contractor in accordance with the provisions of the subchapter Substantial/Final Payment found in the Commonwealth Procurement Code, 62 Pa. C.S. §3941-§3942, the Administrative Procedures, and the General Conditions of the Construction Contract which all are incorporated herein by reference and made a part hereof as if those provisions were fully and at length herein recited, except that, where those provisions refer to the government agency, it is deemed to refer to the AOPC.

ARTICLE 8 – UNIT PRICES

Unit Prices contained in the bid for additions to or deductions from estimated quantities and or price are:

- Acceptable and are, therefore, incorporated into the Contract
- Are not acceptable and are not incorporated as part of the Contract
- Not applicable to this Contract

ARTICLE 9 – SMALL DIVERSE BUSINESS PARTICIPATION

The Department of General Services has established one Minimum Participation Level (MPL), which is applicable to this project. The MPL is for utilization of Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Veteran Business Enterprises (VBEs), and Service-Disabled Veteran Business Enterprises (SDVBEs) (together referred to hereinafter as Small Diverse Businesses) subcontracts, suppliers, and manufacturers for this project which is set forth in the Notice to Bidders. The Contractor's selected option (options are more fully described in the Instructions to Bidders and the Administrative Procedures) regarding the MPL for Small Diverse Businesses is:

- Opt-in – A Contractor selecting “Opt-in” agrees to meet or exceed the Project's MPL as of the date of the Close-out Inspection of the project.
- Good Faith Effort - A Contractor selecting “Good Faith Effort” agrees to document its use of reasonable efforts to identify, solicit, and secure commitments with Small Diverse Businesses for all subcontracts and purchase orders greater than \$10,000 throughout the duration of the Project. DGS reserves the right to request submission of this documentation at any time during the project.
- Not applicable – the Awarded amount does not exceed \$50,000.

ARTICLE 10 – MISCELLANEOUS PROVISIONS

- 10.1 Terms used in the Contract that are defined in the General Conditions of the Construction Contract have the meanings designated in those General Conditions.
- 10.2 In addition to any other guarantees or warranties, the Contractor covenants and agrees, after acceptance of the Work performed under this Contract, to remedy without cost to the AOPC, any such defect, provided said defects in the judgment of the AOPC, or its successors having jurisdiction in the premises, are caused by defective or inferior materials, equipment or workmanship. If the corrective Work is not completed within thirty (30) days after notification by the AOPC to the Contractor, the AOPC may do the Work and submit those costs to the Surety Company for reimbursement.
- 10.3 The Contract Bonds given by the Contractor conditioned upon the faithful performance of the Contract and for the payment of labor, material, equipment rental and public utility service claims are attached to this contract and are made a part of it.
- 10.4 Nothing in this Contract shall be deemed to waive or otherwise affect the sovereign immunity of the Commonwealth, and its agencies, officers, and employees, or to subject any Commonwealth party to any liability not expressly authorized by law.

- 10.5 No third party acquires any rights against the AOPC under this Contract.
- 10.6 The Contractor agrees to abide by and be bound by the Laws of Pennsylvania relating to and regulating the hours and conditions of employment.
- 10.7 Any claimant who has performed labor or furnished material in the prosecution of the Work has a right of action to recover the cost thereof from the Contractor and/or the surety on the Bond given to secure the payment as set forth in Section §903(d) of the of the Commonwealth Procurement Code, 62 Pa. C. S. §903(d). For those who do not have a contract directly with the Contractor, this right of action may not be exercised unless the Contractor receives written notification of the claim within ninety (90) days after the day on which the claimant performed the last of the labor or furnished the last of the materials for which it claims payment. The Contractor shall include in all of its subcontracts or supply contracts a provision requiring that its subcontractors and suppliers notify, in writing, their subcontractors and suppliers of this requirement. It is hereby agreed that no third party rights arise against the AOPC for any reason under this Section, and Contractor hereby agrees to so inform all subcontractors in writing.

ARTICLE 11 – CONTRACT COMPLIANCE REGULATIONS

Refer to the appropriate paragraph of the General Conditions of the Construction Contract (which are made a part of this Contract by incorporation by reference as if fully set forth herein), which prohibits discrimination in hiring or employment opportunities. Also made a part of this Contract by incorporation by reference are all State and Federal Laws prohibiting discrimination in hiring or employment opportunities. The contract documents also list applicable statutory provisions which are incorporated by reference into this contract as if set forth fully herein.

**SIGNATURE PAGE IMMEDIATELY FOLLOWS
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IN WITNESS WHEREOF, the Administrative Office of the Pennsylvania Courts and the Contractor have caused this contract to be executed the day and year above written.

Witness

Contractor – Individual

Witness

Contractor – Partnership

Witness

Contractor – Limited Liability Company

Secretary or Treasurer

Contractor – Corporation

(Corporate Seal)

COMMONWEALTH OF PENNSYLVANIA
ACTING THROUGH THE ADMINISTRATIVE
OFFICE OF THE PENNSYLVANIA COURTS

William Hollenbach, AOPC

APPROVED AS TO LEGALITY AND FORM:

Office of Chief Counsel, AOPC

I hereby certify that funds in the amount of \$ _____
are available under Appropriation Symbol _____.

Finance Director of AOPC Date

CONTRACT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we the undersigned _____
_____ of

as Principal
and

_____ a

Corporation organized and existing under the Laws of the State of
_____ and authorized to transact business in Pennsylvania,

as Surety

are held and firmly bound unto the Administrative Office of the Pennsylvania Courts as
hereinafter set forth, in the full and just several sums of

(A) _____
Dollars (\$ _____) for faithful performance of the
Contract as designated in Paragraph "A" herein; and

(B) _____
Dollars (\$ _____) for payment for labor, material
equipment rental and public utility services as designated in Paragraph "B".

Sealed with our respective seals and date this ____ day of 20 ____ .

WHEREAS, the above Principal has entered into a Contract with the Administrative
Office of the Pennsylvania Courts dated the ____ day of _____, 20 ____ for
_____ upon
certain terms and conditions in said Contract more particularly mentioned; and

WHEREAS, it is one of the Conditions of the Award of the Administrative Office of the Pennsylvania Courts pursuant to which said Contract is about to be entered into, that these presents be executed;

NOW, THEREFORE, the joint and several conditions of this obligation are such:

A. That, if the above Principal as Contractor shall well and faithfully do and perform the things agreed by it to be done and performed according to the terms of said Contract and General Conditions, including the plans and specifications therein referred to and made part thereof, and such alterations as may be made in said plans and specifications as therein provided and which are hereby made part of this Bond the same as though they were fully set forth herein, and shall indemnify and save harmless the Administrative Office of the Pennsylvania Courts and all of its officers, agents and employees from any expense incurred through the failure of said Contractor to complete the Work as specified and for any damages growing out of the manner of performance of said Contract by said Contractor or its Subcontractors, or its or their agents or servants, including, but not limited to, patent trademark and copyright infringements, then this part of this obligation shall be void; otherwise, it shall be and remain in full force and effect.

B. That, if the above Principal shall and will promptly pay or cause to be paid all sums of money which may be due by the Principal or any of its Subcontractors to any person, co-partnership, association or corporation for all material furnished and labor supplied or performed in the prosecution of the Work, whether or not the said material or labor entered into and become component parts of the Work or improvements contemplated, and for rental of equipment used, and services rendered by public utilities in, or in connection with, the prosecution of such Work, then this part of this obligation shall be void; otherwise, it shall be and remain in full force and effect.

C. It is further agreed that any alterations which may be made in the terms of the Contract or in the Work to be done or materials to be furnished or labor to be supplied or performed, or equipment to be rented, or public utility services to be rendered, or the giving by the AOPC of any Extension of Time for the performance of the Contract, or the reduction of the retained percentage as permitted by the Contract, or any other forbearance on the part of either the Administrative Office of the Pennsylvania Courts or the Principal to the other, shall not in any way release the Principal and the surety or sureties or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder; notice to the surety or sureties of any such alterations, extension or forbearance being hereby waived.

D. The Principal and Surety hereby jointly and severally agree with the Administrative Office of the Pennsylvania Courts herein that every person, co-partnership, association or corporation which, whether as subcontractor or as a person otherwise entitled to the benefits of this Bond, has furnished material or supplied or performed labor or rented equipment used in the prosecution of the Work as above provided and any public utility, which has rendered services, in, or in connection with, the prosecution of such Work, and, which has not been paid in full therefore, may sue in assumpsit on this Bond in his, their, or its name and prosecute the same to final judgment for such sum or sums as may be justly due him, them, or its, and have execution thereon; provided, however, that the Administrative Office of the Pennsylvania Courts shall not be liable for the payment of any costs or expenses of such suit to a third party under any theory of law or equity.

E. Recovery by any persons, co-partnership, association or corporation hereunder is subject to the provisions of the Act of May 15, 1998, P.L. 358, No. 57, 62 Pa.C.S §§101-4509, as amended, which Act is incorporated herein and made a part hereof, as fully and completely as though its provisions were fully and at length herein recited, except that, where said Act refers to the Commonwealth of Pennsylvania or a Department thereof, it is deemed to refer to the Administrative Office of the Pennsylvania Courts.

[Signature Page Immediately Follows]

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IN WITNESS WHEREOF, the said Principal and Surety have duly executed this Bond under seal the day and year above written.

Witness

Principal – Individual

Witness

Principal – Partnership

Witness

Principal – Limited Liability Company

Secretary or Treasurer

Principal – Corporation

(Corporate Seal)

Surety

Attorney-in-Fact

APPROVED AS TO LEGALITY AND FORM:

Office of Chief Counsel, AOPC

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- 3.12. Replacement of Professional

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- 4.1. Easements and Rights of Access
- 4.2. Administrative Procedures
- 4.3. Separate Prime Contracts
- 4.4. Department Not Responsible for Contractor Means/Methods/Techniques
- 4.5. Department is Not Responsible for Contractor Acts or Omissions
- 4.6. Department's Access to the Work
- 4.7. Department's Use and/or Occupancy of the Work

ARTICLE 5: THE CONSTRUCTION MANAGER

- 5.1. Information and Services Required of the Construction Manager
- 5.2. Construction Manager's Access to the Work
- 5.3. Replacement of Construction Manager
- 5.4. Construction Manager Not Responsible for Contractor Acts or Omissions
- 5.5. Contractor Not An Intended Third Party Beneficiary of the CM Agreement

ARTICLE 6: THE CONTRACTOR

- 6.1. Review of Contract Documents and Site Conditions
- 6.2. Small Business Prime Contractor
- 6.3. Duty to Coordinate the Work with Other Prime Contractors
- 6.4. Project Coordination
- 6.5. Coordination Disputes
- 6.6. Coordination of Subcontractors
- 6.7. Means, Methods and Techniques of Construction
- 6.8. Use of Site
- 6.9. Mobilization

- 6.10. Job Conferences
- 6.11. Contractor's Staff and Phone Numbers
- 6.12. Drawings and Specifications at the Site
- 6.13. Provision of Labor and Materials
- 6.14. Responsibility for those Performing Work
- 6.15. Equipment and Materials
- 6.16. Supervision
- 6.17. Good Order Among Employees
- 6.18. Permits and Fees
- 6.19. PCCA/UCC Inspection & Compliance with Applicable Laws, Ordinances and Regulations, etc.
- 6.20. Surveys, Laying Out and Execution of the Work
- 6.21. Discrepancy or Interference with or by the Work of Other Contractors
- 6.22. Existing Utilities and Services
- 6.23. Interruption of Existing Services
- 6.24. Contractor Performing Excavation or Demolition
- 6.25. Observation or Inspection of the Work by Others
- 6.26. Coordination Drawings for Sleeves and Openings
- 6.27. Cutting and Patching of Non-Roof System Work
- 6.28. Cutting and Patching of Roof Systems
- 6.29. Cleaning The Project
- 6.30. Repair of Damaged Work
- 6.31. Chases and Openings
- 6.32. Chases and Openings after Construction of Walls
- 6.33. Tests
- 6.34. Special Testing
- 6.35. Certificates of Inspection
- 6.36. Observation of Testing
- 6.37. Effect of Tests
- 6.38. Environmental Quality Control
- 6.39. Solid Waste
- 6.40. Compliance with Statutes and Regulations Administered by DEP
- 6.41. Burning of Materials
- 6.42. Suspension from Metal Roof Decks – New and Existing
- 6.43. Asphalt or Tar Kettles
- 6.44. Insulation
- 6.45. Enforcement of Insulation Requirement
- 6.46. Landscaping Products Recycled Content
- 6.47. Construction Products Recycled Content
- 6.48. Storage Enclosure
- 6.49. No Storage in Existing Buildings
- 6.50. Operations and Maintenance Instruction Manuals
- 6.51. As-Built Drawings
- 6.52. Warranty and Guarantee
- 6.53. Taxes
- 6.54. Offset of Amounts Due to Commonwealth
- 6.55. Nondiscrimination and Sexual Harassment
- 6.56. Contractor Evaluations

ARTICLE 7: SUBCONTRACTORS

- 7.1. Contractor's Interest in Subcontractor/Supplier
- 7.2. Subcontractor/Supplier Responsibility
- 7.3. Contractor Responsibility for Actions and Compliance
- 7.4. Acts and Omissions of Subcontractor
- 7.5. Subcontracts and Purchase Orders
- 7.6. No Contractual Relationship Between Department and Subcontractor

- 7.7. No Contractual Relationship Between Department and Supplier or Manufacturer
- 7.8. Payment of Subcontractors by Contractor Governed by Prompt Payment Schedule
- 7.9. Failure of Department to Make Progress Payment
- 7.10. Insurance Receipts
- 7.11. Percentage of Completion
- 7.12. No Obligation on Part of Department to Pay Subcontractor, Supplier, or Manufacturer
- 7.13. Subcontractor, Supplier, and Manufacturer Claims

ARTICLE 8: PROJECT SCHEDULE

- 8.1. Department Reservation of Rights
- 8.2. Time Is of the Essence
- 8.3. Commencement of Off-Site Work if Letter of Intent Issued
- 8.4. Commencement of Off-Site Work if Letter of Intent Not Issued
- 8.5. Initial Job Conference
- 8.6. Commencement of On-Site Work
- 8.7. Project Schedule Preparation
- 8.8. Work During Formation of Project Schedule
- 8.9. Department Reservation of Rights
- 8.10. The Department Shall Own the Float
- 8.11. Scheduling Disputes
- 8.12. Maintaining the Project Schedule
- 8.13. Project Schedule Updating
- 8.14. Recovery Plan
- 8.15. Requests for Extensions of Time
- 8.16. Effect of Grant of Extensions of Time to Other Contractors
- 8.17. Extensions of Time and Impact on Schedule
- 8.18. Delays and Extensions of Time
- 8.19. Unfavorable Weather
- 8.20. Extensions of Time Not an Admission of Liability for Delay

ARTICLE 9: SUBMITTALS & COORDINATION DRAWINGS

- 9.1. Submittals
- 9.2. Submittal Schedule
- 9.3. Coordination and Sequencing of Submittals
- 9.4. Approval of Source of Material and Subcontractors
- 9.5. Coordination Drawings
- 9.6. Standard of Quality
- 9.7. Substitution of Materials

ARTICLE 10: PROTECTION OF PERSON & PROPERTY AND INSURANCE AND INDEMNIFICATION

- 10.1. Safety Precautions and Programs
- 10.2. Safety Overview
- 10.3. Safety of Persons and Property
- 10.4. Compliance with Safety Laws
- 10.5. Safety Program
- 10.6. Employee Safety Orientation & Safety Meetings
- 10.7. Accident Reports
- 10.8. First Aid Treatment
- 10.9. Project Equipment
- 10.10. Employee and Visitor Dress Requirements
- 10.11. Emergency Notification
- 10.12. Failure to Comply with Safety Requirements
- 10.13. Explosives
- 10.14. Remediation of Damages
- 10.15. Loads

- 10.16. Contractor's Liability Insurance
- 10.17. Insurance Limits
- 10.18. Certificates of Insurance
- 10.19. Comprehensive General Liability and Automobile Liability Insurances
- 10.20. Property Insurance
- 10.21. Risk to Construction Work
- 10.22. Unacceptable Surety or Insurance Company
- 10.23. Indemnification
- 10.24. Indemnification Not Limited by Employee Benefits Acts
- 10.25. Indemnification Does Not Cover the Construction Manager's or the Professional's Actions
- 10.26. Workforce Drug & Alcohol Policy

ARTICLE 11: CHANGES IN THE WORK

- 11.1. Changes
- 11.2. Cost of Change Order
- 11.3. Disagreement as to Cost or Credit
- 11.4. Unit Prices Set Out in Bid or Proposal
- 11.5. Unclassified Excavation
- 11.6. Concealed Conditions
- 11.7. No Claims for Additional Cost or Time
- 11.8. Minor Changes in the Work
- 11.9. Directive to Commence Change Order Work

ARTICLE 12: NON-CONFORMING WORK AND CORRECTIONS

- 12.1. Work Covered Contrary to Request
- 12.2. Uncovering of Work
- 12.3. Correction of Work Rejected by the Department
- 12.4. Correction of Work after Acceptance
- 12.5. Correction at No Cost to Department
- 12.6. Cost of Damage to Other Contractors' Work
- 12.7. Failure to Correct Defective or Non-Conforming Work
- 12.8. Investigation by the Department
- 12.9. Acceptance of Non-Conforming Work
- 12.10. Department's Right to Carry Out the Work
- 12.11. Obligations of Contractor Not Limited by this Article

ARTICLE 13: PAYMENTS AND COMPLETION

- 13.1. Contract Breakdown
- 13.2. Application for Progress Payments
- 13.3. Contractor Warrants Title to all Work Passes Free of Liens
- 13.4. Neither Payment Nor Occupancy Constitutes Acceptance of Work not in Conformance with Contract Documents
- 13.5. Payments Withheld
- 13.6. Payment Made when Grounds are Resolved
- 13.7. Retainage
- 13.8. Money Withheld Due to Claims of One Prime Based on Delay of Another Contractor
- 13.9. Department Does Not Make Payment
- 13.10. Work Cannot Be Completed Through No Fault of Contractor
- 13.11. Final Payment Not Due Until Conditions Met
- 13.12. Release of Funds if Delay in Inspection Not Due to the Contractor's Fault
- 13.13. Final Payment as Waiver of Claims
- 13.14. Acceptance of Final Payment as Waiver of Claims

ARTICLE 14: PROJECT CLOSEOUT

- 14.1. Closeout Generally
- 14.2. Final Inspection

ARTICLE 15: SUSPENSION

- 15.1. Suspension of Work Due to Unfavorable Conditions or Weather
- 15.2. Suspension of Work Due to Fault of Contractor
- 15.3. Suspension of Work for the Convenience of the Department
- 15.4. Resumption of Work

ARTICLE 16: TERMINATION OF CONTRACT

- 16.1. Termination for the Convenience of the Department
- 16.2. Effect of Termination for Convenience of the Department
- 16.3. Contractor's Default
- 16.4. Unpaid Contract Balance
- 16.5. Surety Replacement of Contractor
- 16.6. Surety's Failure to Provide Replacement Contractor
- 16.7. Department's Right of Recovery

ARTICLE 17: DISPUTES

- 17.1. Contractor Must Carry on Work During the Dispute Process
- 17.2. Contractor Request for DGS to Withhold Funds Due to Damage by Other Contractor(s)
- 17.3. Arbitration of Disputes Between Contractors
- 17.4. Dispute Resolution is a 3-Step Process
- 17.5. Step 1: Field Dispute Review Meetings
- 17.6. Step 2: Claim Conference
- 17.7. Step 3: Filing a Claim at the Board of Claims

ARTICLE 18: COMMISSIONING

- 18.1. Scope of Work
- 18.2. Procedure
- 18.3. Payment for Commissioning

ARTICLE 19: MISCELLANEOUS CONDITIONS

- 19.1. Project Sign
- 19.2. Foundations for Mechanical Equipment
- 19.3. Sanitary Facilities
- 19.4. Sanitary Facilities After Lines Installed
- 19.5. Hoisting Facilities
- 19.6. Temporary Ventilation
- 19.7. Work Beyond Limit of Contract
- 19.8. Advertising
- 19.9. Federal A.S.T.M. and Other Specifications
- 19.10. Storage and Stockpiling on Roofs
- 19.11. Audit of Records
- 19.12. Temporary Traffic Control
- 19.13. Reduction of Noise
- 19.14. Visible Dust Emissions

ARTICLE 20: LEGAL MATTERS

- 20.1. No Estoppel or Waiver of Legal Rights
- 20.2. Law of the Place
- 20.3. Successors and Assigns
- 20.4. Written Notice
- 20.5. Claims for Damages: Legal Relations and Responsibilities
- 20.6. Royalties and Patents
- 20.7. Personal Responsibility and Work Opportunity Reconciliation Act
- 20.8. Public Works Employment Verification Act

- 20.9. Steel Products Procurement Act
- 20.10. Prevailing Minimum Wage Predetermination
- 20.11. Tobacco Use on Project Site
- 20.12. Right-to-Know Law
- 20.13. Non-Appropriation Clause

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1: DEFINITIONS

Whenever in this Contract the following words and expressions occur, they have the following meanings, which shall be construed in conjunction with the applicable definitions of the Commonwealth Procurement Code:

- 1.1 **ADMINISTRATIVE PROCEDURES:** The Department of General Services' (the Department) construction procedures manual to be followed for various administrative functions, including but not limited to, Project correspondence, Job Conferences, schedules, testing, submittals, Applications for Payment, Change Orders, Extensions of Time, Steel Product Procurement compliance, Substantial Completion, Final Inspection, and Closeout Inspection.
- 1.2 **AGREEMENT FOR PROFESSIONAL SERVICES:** The Agreement for Professional Services and any Special Conditions, in addition to any Amendments, between the Department and the Professional. The Agreement for Professional Services is commonly referred to as the "Agreement" or "Professional Agreement".
- 1.3 **AGREEMENT FOR CONSTRUCTION MANAGER SERVICES:** There may not be a Construction Manager on every Project. If the Department retains a Construction Manager at any point during the Project, this Agreement will be the contract, including any amendments, between the Department and its Construction Manager, which represents the entire and integrated agreement between them.
- 1.4 **APPLICATION FOR PAYMENT:** The document submitted by the Contractor pursuant to the applicable Administrative Procedure for DGS review and/or release of payment.
- 1.5 **AS-BUILT RECORD DRAWINGS:** Terminology used by the Department to identify contract prints or drawings, corrected with suitable markings to show all changes or variations from the original contract drawings, including all items uncovered during the Work and show details of the work as actually built, including but not limited to horizontal and vertical dimensional references of all concealed pipe, conduit and other lines and equipment and similar items.

As-built record drawings are not "Record Drawing", which is terminology used by the Department to describe the revised set of construction documents (also referred to as L&I Record Drawings) in which the Professional is responsible for submitting to the Department of Labor and Industry for approval of changes made during construction that are not in accordance with the approved construction documents.
- 1.6 **BENEFICIAL OCCUPANCY:** The date upon which the Professional certifies and the Department concurs that the Work is sufficiently complete, in accordance with the Contract Documents, so that the Using Agency may use, occupy or operate the Project as fit for the use for which it was intended. The Department, in its sole discretion, reserves the right to designate a portion of the Project for the Professional's certification of beneficial occupancy.
- 1.7 **BI-WEEKLY:** An event occurring every two weeks.

- 1.8 **CHANGE ORDER:** A written order signed by the Department directing the Contractor to make changes that the changes clause of the Contract authorizes the Department to order. The change order may be either with the consent of the Contractor or a unilateral order by the Department. The Contract Sum may be changed only by Change Order.
- 1.9 **COMMONWEALTH:** The Commonwealth of Pennsylvania.
- 1.10 **CONSTRUCTION INSPECTOR:** The Commonwealth employee from either DGS or the Funding Agency assigned to the Project to assist in inspecting the Work of specific disciplines.
- 1.11 **CONSTRUCTION INSPECTOR SUPERVISOR:** The Commonwealth employee assigned to the Project to assist in administering the Project and supervising the Construction Inspectors.
- 1.12 **CONSTRUCTION MANAGER:** There may not be a Construction Manager on every Project. If the Department does not retain a Construction Manager, any reference in the General Conditions to "Construction Manager" shall be interpreted to mean the Department's Bureau of Construction. If the Department does retain a Construction Manager at any point during the Project, the Construction Manager shall be the consultant retained by the Department to act as the Department's designee and authorized representative to coordinate and manage the Project. The Contractor agrees that there is no privity of contract between the Construction Manager and the Contractor, nor is the Contractor an intended third party beneficiary of the DGS/CM Agreement.
- 1.13 **CONSULTANT:** A specialist retained by the Department, the Construction Manager or the Professional for the performance of its specialty.
- 1.14 **CONTRACT:** A written agreement consisting of the Contract Documents, as defined in Article I of the Standard Form of Contract and executed by all parties in accordance with the Commonwealth Attorneys Act. The Contract represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, or agreements, either written or oral. To the extent that any of these documents are amended by statute, the statutory language will control.
- 1.15 **CONTRACT BONDS:** The bonds required by the Contract Documents which must be executed by one or more surety companies legally authorized to do business in the Commonwealth of Pennsylvania including, but not limited to, bonds for the faithful performance of the contract and for payment of labor and material, as required by the Department.
- 1.16 **CONTRACT COMPLETION DATE:** The date in the Contract Documents for completion of the Work.
- 1.17 **CONTRACT DOCUMENTS:** The documents listed in Article 1 of the Standard Form of Contract or, if procured through the Small Business program, in Article 1 of the Small Business Standard Form of Contract. To the extent that any of these documents are amended by statute, the statutory language will control.
- 1.18 **CONTRACT DURATION:** The number of calendar days set forth in the Contract Documents for completion of the Work, also referred to as Contract Time.
- 1.19 **CONTRACT LIMITS:** The area designated on the Contract Documents as the limit of construction, within which the Contractor may perform the Work.

- 1.20 **CONTRACT START DATE:** For purposes of calculating dates for completion of the Work, this is the date upon which the Initial Job Conference is held for the Project.
- 1.21 **CONTRACT SUM:** The total amount payable by the Department to the Contractor for the performance of the Work under the Contract Documents.
- 1.22 **CONTRACTOR:** The person or organization identified as such in the Standard Form of Contract and is referred throughout the Contract Documents, as singular in number. Unless otherwise indicated, the Contractor is a Prime Contractor. The Contractor may be referred to throughout these General Conditions as the "Prime Contractor", when the term is needed for clarity. The term "Contractors" means the group of Prime Contractors working on the Project. Unless otherwise noted, a Small Business Prime Contractor is also a Contractor throughout these General Conditions.
- 1.23 **DAYS:** Calendar days unless specifically stated otherwise in the Contract.
- 1.24 **DEFICIENCY ITEM:** Any work or activity, either performed or unperformed, which the Department will not certify as being performed in accordance with the Contract Documents.
- 1.25 **DEPARTMENT:** The Department of General Services of the Commonwealth of Pennsylvania, also known as "DGS", or any of its authorized representative or designee, and is referred throughout the Contract Documents as singular in number. Where "Department" is written in this document, it is also defined as the Funding Agency on a Small Business project administered by the Funding Agency.
- 1.26 **DIRECTOR OF CONSTRUCTION:** The Department's employee who is the administrative head of the Bureau of Construction of the Department and is vested with the responsibility for project construction in accordance with the Contract Documents.
- 1.27 **DIRECTOR OF ENGINEERING AND ARCHITECTURE:** The Department's employee who is the administrative head of the Bureau of Engineering and Architecture. The Bureau of Engineering and Architecture may serve as the Professional on a project.
- 1.28 **EFFECTIVE DATE OF CONTRACT:** The date on which the last Commonwealth official who is required to execute the contract executes it.
- 1.29 **EXTENSION OF TIME:** A formal approved extension of a contract duration.
- 1.30 **FIELD ORDER:** A record of a minor adjustment in the Work that results in no change in cost or duration of the Contract.
- 1.31 **FINAL INSPECTION:** A review of the Work conducted by the Professional, when requested by the Contractor, to determine whether the Project is substantially complete. If, as a result of this inspection the Work is determined to be substantially complete, the Professional generates a certificate of completion and a Punch List of uncompleted items and a reasonable cost of completion.
- 1.32 **FUNDING AGENCY:** The Department or any other executive agency, government agency, independent agency, state-affiliated entity, or state-related institution, paying for the Project which includes the Work covered by the Contract.
- 1.33 **LABOR & INDUSTRY:** The Commonwealth of Pennsylvania's Department of Labor & Industry, also referred to as "L&I".

- 1.34 **LEAD CONTRACTOR:** The Prime Contractor who coordinates the progress of the Work. The Lead Contractor will be designated in the specifications.
- 1.35 **LETTER OF INTENT:** A letter might be issued by the Department if, in the Department's sole discretion, such letter is necessary on the Project. If issued, the Contractor may rely upon the letter to initiate the scope of Work described in the letter before there is a fully executed contract with the Department and to incur costs in conducting the described scope of Work.
- 1.36 **MANUFACTURER:** a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications and who receives compensation from the Contractor, pursuant to the terms of a purchase order or invoice, to provide any material and/or any equipment to the Project. Nothing contained in the Contract Documents between the Contractor and the Department creates any contractual relationship between the Department and any Manufacturer. A Manufacturer lacks privity of Contract to the Department and every Manufacturer agrees that it neither acquires nor intends to acquire any rights against the Department on a third party beneficiary theory or any other theory.
- 1.37 **MILESTONE:** An indication on the Project Schedule that designates the start or completion of a significant construction activity
- 1.38 **MODIFICATION:** Amendments to the Contract, which can only be made by an approved Change Order, Field Order, or Extension of Time. Modifications can be made only after execution of the Contract.
- 1.39 **NOTICE OF DEFICIENCY:** A document to record non-conforming work, deficient work and/or schedule slippage.
- 1.40 **OFF-SITE WORK:** All Work that is not physically carried out within the Contract Limits.
- 1.41 **ON-SITE WORK:** All Work that is physically carried out within the Contract Limits.
- 1.42 **POSTCONSUMER RECOVERED PAPER:** Any paper, paperboard and fibrous wastes from retail stores, office buildings, homes and so forth, after they have been passed through their end-usage as a consumer item including: used corrugated boxes, old newspapers, old magazines, mixed waste paper, tabulating cards and used cordage, as well as all paper, paperboard and fibrous wastes that enter and are collected from municipal solid waste.
- 1.43 **PRIME CONTRACTOR:** Any Contractor holding a Contract with the Department for construction services on the Project.
- 1.44 **PROFESSIONAL:** The Commonwealth employee or any Architect and/or Engineer retained by the Department. The term may also include the Architect's and/or Engineer's authorized representative or consultant(s). The Contractor agrees no privity of contract exists between the Professional and the Contractor, nor is the Contractor an intended third party beneficiary of the DGS/Professional Agreement.
- 1.45 **PROJECT:** The total Work to be performed by all the separate Prime Contractors under the Project Number.
- 1.46 **PROJECT SCHEDULE:** The timeline prepared by the Contractor establishing milestones for the Work over the contract duration. Depending upon the complexity of the Project, the

Project Schedule may be a Critical Path Method (CPM) schedule prepared as a result of the coordinated and cooperative efforts of each Prime Contractor on the Project. The Department's expectation for the type of project schedule (GANTT or CPM) will be set forth in the Specifications.

- 1.47 **RECORD DRAWINGS:** The revised set of construction documents (also referred to as L&I Record Drawings) in which the Professional is responsible for submitting to the Department of Labor and Industry for approval of changes made during construction that are not in accordance with the approved construction documents.
- 1.48 **RECOVERED MATERIALS:** Waste material and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.
- 1.49 **REGIONAL DIRECTOR:** The Department's employee who oversees the construction projects and the DGS construction employees within the geographical area of the Project.
- 1.50 **REQUEST FOR INFORMATION:** A written question issued by the Contractor seeking clarification of the Contract Documents.
- 1.51 **SAMPLES:** Physical examples furnished by the Contractor to illustrate materials, equipment or workmanship, and to establish standards by which the work will be judged.
- 1.52 **SECRETARY:** The administrative head of the Department of General Services (or the Funding Agency Secretary if the project is administered by the Funding Agency).
- 1.53 **SMALL BUSINESS PRIME CONTRACTOR:** The Small Business construction contractor awarded a Small Business contract on a Small Business project. The Small Business Prime Contractor is also "Contractor" throughout these General Conditions.
- 1.54 **SMALL DIVERSE BUSINESS:** Department certified Minority Business Enterprises (MBEs), Woman Business Enterprises (WBEs), Veteran Business Enterprises (VBEs) or Service-Disabled Veteran Business Enterprises (SDVBEs).
- 1.55 **SPECIFICATION:** A description of the physical or functional characteristics or the nature of a construction item, including a description of any requirement for inspecting, testing or preparing a construction item for delivery. The specifications are a part of the Contract Documents and must be interpreted in conjunction with the other Contract Documents, as specified further in the General Conditions.
- 1.56 **SUBCONTRACTOR:** A person or organization that has a Contract with the Contractor to perform any of the Work. The term Subcontractor is referred throughout the Contract Documents as singular in number and means a Subcontractor or its authorized representative. The Contractor and every Subcontractor agree that there is no privity of contract between the Department and any Subcontractor and that, to the extent set forth by law, the Subcontractor has no direct cause of action against the Department for any claim arising out of the Project.
- 1.57 **SUBMITTALS:** Administrative or technical information, including but not limited to drawings, diagrams, illustrations, schedules, performance charts, brochures, catalog data, and other data that are prepared by the Contractor or any Subcontractor, manufacturer, supplier, or distributor, and which illustrate some portion of the Work or how it fits in relation to other parts of the Work.

- 1.58 **SUBSTANTIALLY COMPLETE:** When the Work on the Contract is sufficiently completed in accordance with the Contract Documents and certified by the Department and the Professional so that the Project or specified part(s) of the Project can be used, occupied or operated for its intended use. In no event shall a Project be certified as substantially complete until at least 90% of the Work has been completed and accepted by the Department and is capable of Beneficial Occupancy.
- 1.59 **SUB-SUBCONTRACTOR:** A person or organization that has a Contract with a Subcontractor to perform any of the Work. The term Sub-subcontractor is referred throughout the Contract Documents as singular in number and means a Sub-subcontractor or its authorized representative. The Contractor, every Subcontractor and every Sub-subcontractor agree that there is no privity of contract between the Department and any Sub-subcontractor and that, to the extent set forth by law, the Sub-subcontractor has no direct cause of action against the Department for any claim arising out of the Project.
- 1.60 **SUPERINTENDENT:** The Contractor's representative at the Project site. The Superintendent is responsible for continuous field supervision, coordination and completion of the Work, and, unless another person is designated, in writing, by the Contractor to the Construction Manager, for the prevention of accidents. The Superintendent shall have full authority to act on behalf of the Contractor in relation to Project activities and associated work.
- 1.61 **SUPPLIER:** An individual, firm, partnership, association, corporation or other legal entity who receives compensation from the Contractor, pursuant to the terms of a purchase order or invoice, to provide any material and/or any equipment to the Project. Nothing contained in the Contract Documents between the Contractor and the Department creates any contractual relationship between the Department and any Supplier. A Supplier lacks privity of Contract to the Department and every Supplier agrees that it neither acquires nor intends to acquire any rights against the Department on a third party beneficiary theory or any other theory.
- A. Stocking Supplier:** a firm that owns, operates, or maintains a store, warehouse, or other establishment, in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.
- B. Nonstocking Supplier:** nonstocking supplier does not carry inventory but orders materials from a manufacturer, manufacturer's representative or a stocking supplier. In order for a non-stocking supplier to receive credit, it must perform a useful business function by engaging in meaningful work (i.e., negotiating price; and determining quality and quantity; and ordering materials; and paying for the materials).
- 1.62 **UNIFORM CONSTRUCTION CODE (UCC):** Pennsylvania's Uniform Construction Code (35 P.S. §7210.101 *et seq.*) that grants the Pennsylvania Department of Labor & Industry sole jurisdiction over state-owned buildings. A general description and important links can be found at www.dli.state.pa.us and clicking on the Building Codes Quick Link. The Contractor is responsible for compliance as set forth in the UCC and these General Conditions.
- 1.63 **USING AGENCY:** The Department or any other executive agency, government agency, independent agency, state-affiliated agency, or state-related institution requesting the Project, which includes the Work covered by the Contract.

- 1.64 **WORK:** The construction and services required by Contract Documents, whether completed or partially completed, including all labor, materials, equipment and services provided or to be provided by a construction contractor to fulfill its obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2: EXECUTION, CORRELATION, INTENT, AND INTERPRETATIONS

- 2.1 **CONTRACT EXECUTION.** The Department and the Contractor shall sign the Contract Documents in triplicate. The Professional shall seal all drawings. The Licensed Consultant(s) of the Professional shall sign and seal for their part of the Work. No oral contract or conversation with any officer, agent, or personnel of the Department, Funding Agency, or Using Agency, or with the Professional, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.
- 2.2 **CONTRACT INTERPRETATION.** The Contract Documents are complementary and what is required by any one of the Contract Documents is binding as if required by all. The intention of the Contract Documents is to include all labor, materials, equipment and other items or conditions necessary for the proper execution and completion of the Work. Work not covered under any heading, section, branch, class or trade of the specifications need not be supplied, unless it is required elsewhere in the Contract Documents or is reasonably inferable as being necessary to produce the intended results.

The omission of words or phrases for brevity of the Contract Documents, the inadvertent omission of words or phrases, or obvious typographical or written errors shall not nullify the Department's or their representative's interpretation so long as that interpretation is reasonably inferable from the Contract Documents as a whole. Except as noted otherwise, references to standard specifications or publications or associations, bureaus, or organizations shall mean the latest edition or revision of the referenced standard specification or publication as of the date of the Invitation for Bids. Words that have well-known technical or trade meanings are used in this Contract in accordance with such recognized meanings.

In the event of conflict in the Contract Documents, the priorities stated below shall govern:

1. Addenda/Bulletins shall govern over all other Contract Documents, and subsequent addenda shall govern over prior addenda/Bulletins only to the extent modified.
 2. Special Conditions shall govern over all specifications, General Conditions, and drawings.
 3. Specifications and drawings shall govern over the General Conditions.
 4. If there is a conflict regarding quantities or quality of products in the Contract Documents, the higher quantity or quality product shall be delivered.
 5. **If there is a conflict between the contract drawings and the specifications, the specifications shall prevail.**
- 2.3 **CONTRACT ORGANIZATION.** The organization of the specifications into divisions, sections and articles and the arrangement of drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

- 2.4 **CONTRACT DETAIL.** Where the Work is shown in complete detail on only a portion of a drawing or there is an indication of continuation, the remainder being depicted or described in an outline or schematic form, the Work drawn out in detail applies to other like portions of the structure.
- 2.5 **CONTRACT ERRORS OR CONFLICTS.** If the Contractor, in the course of construction, finds any conflict, error or discrepancy on or among the Contract Documents, such conflict, error or discrepancy shall be immediately referred in writing to the Department and the Professional. The Professional, with appropriate input from the Department, will review the matter and issue an interpretation to the Contractor in writing within seven (7) calendar days after the Professional receives the Contractor's written Request for Information.
- 2.6 **OWNERSHIP AND COPIES OF CONTRACT DOCUMENTS.** Unless otherwise provided in the Contract Documents, the Contractor will be furnished one (1) complete, reproducible set of drawings and specifications. If additional sets are required for the Project, the Contractor shall pay for the cost of providing additional specifications and drawings. All drawings, specifications and copies thereof furnished by the Professional are and shall remain the property of the Department. They are not to be used on any other Project, and, with the exception of one contract set for each party to the Contract, are to be returned to the Department at the completion of the Work.

ARTICLE 3: THE PROFESSIONAL

- 3.1 **ADMINISTRATION OF CONTRACT.** The Professional will assist the Department and/or the Department's designee, in providing administration of the Construction Contracts. The Professional will review and execute (if acceptable) all Department forms that require the Professional's review and signature under the Contract. The Professional will also review submittals as provided in the Submittal Article of these General Conditions. The Professional shall assist the Department, if requested, in the review of Extension of Time requests and claims of any type.
- 3.2 **PROFESSIONAL SITE VISITS.** The Professional shall attend at least the bi-weekly Job Conferences (except on Small Business projects) and all other special meetings and Project Site conferences required by the Department and/or the Department's designee during periods of active construction in accordance with the terms of the Agreement or Work Order. After all such meetings, the Professional shall review the performance of the Work and take such action as is necessary or appropriate to achieve the requirements of the Contract Drawings and Specifications, including advising the Department's personnel (and/or the Department's designee) as to particular matters to watch for and guard against. The Professional shall have its Consultant(s) visit the site periodically during their respective phases of the Work at such intervals as may be reasonably deemed necessary by the Department, to observe the respective phases of the Work and verify the Work's compliance with the requirements of the Contract Documents. If the Professional deems it necessary for its Consultants to visit the site at times other than those requested by the Department, the Professional shall arrange such visits. In addition to the above-referenced bi-weekly site visits, the Professional shall attend any and all project site conferences that the Department and/or the Department's designee determine are necessary.
- 3.3 **PROFESSIONAL ACCESS TO WORK.** The Professional, its Consultants and authorized representatives shall have access to the Work at all times. The Contractor shall provide the facilities for such access so the Professional may perform its functions under the Contract Documents.

- 3.4 **PROFESSIONAL INTERPRETATION OF DOCUMENTS.** The Professional is the initial interpreter of the requirements of the Contract Documents. The Professional will, within seven (7) days after receipt of a written request, (in the form of a Request For Information) render in writing such interpretation. All interpretations by the Professional shall be consistent with the Contract Documents. In its capacity as interpreter, the Professional will exercise its best efforts to interpret the documents impartially. Any dispute regarding such interpretation shall be handled in accordance with the Disputes Article of these General Conditions.
- 3.5 **REJECTION OF WORK.** The Professional is authorized to recommend rejection of Work that does not conform to the Contract Documents and shall immediately notify the Department, and/or the Department's designee, and the Contractor(s) of such rejection. If the Professional discovers Work that is non-conforming or discovers an unforeseen condition, the Professional must make all necessary and appropriate recommendations, in writing, to the AOPC Executive Administrator as soon as possible, but no later than twenty-four (24) hours after such discovery, with regards to directing any or all Contractors to stop any portion of the Work, or requiring special inspection or testing of the Work as provided in Testing and/or Special Testing paragraph of these General Conditions. Neither the Professional's authority to make recommendations under this paragraph, nor any decision made by the Professional in good faith to either exercise or not to exercise such authority shall give rise to any duty or responsibility of the Professional to the Contractor, or any Subcontractor, any of their agents or employees, or any other person performing any of the Work.
- 3.6 **PROFESSIONAL REVIEW OF CHANGE ORDERS.** The Professional will prepare specifications and drawings necessary for the Department to authorize change orders in accordance with the Change Order Article of these General Conditions. The Professional shall review all costs submitted by the Contractor for all Change Orders and advise the Department and/or the Department's designee, in writing of the Professional's acceptance or rejection of the scope and cost of the change order within seven (7) days of the Professional's receipt of the Contractor's cost estimate. The Professional must provide written justification to the Department and/or the Department's designee to substantiate disputed costs.
- 3.7 **NON-CONFORMING WORK.** If the Professional is required to design corrective work to remedy defective or nonconforming Work by the Contractor, the cost for any and all additional professional services shall be paid by the Contractor, provided that the Professional submits those costs to the Department and the Contractor within thirty (30) days after the completion of said additional services. The Department shall review the corrective work and/or drawings that are prepared by the Professional in order to determine if the corrective work and/or drawings fall within the original scope of the Contract.
- 3.8 **AS-BUILT RECORD DOCUMENTS.** At Final Inspection, the Contractor shall prepare and deliver to the Professional a complete set of contract prints, corrected with suitable markings to show all changes or variations from the original contract, including all items uncovered during the work and showing the details of the work as actually built, including but not limited to horizontal and vertical dimensional references of all concealed pipe, conduit and other lines and equipment.
- 3.9 **PROFESSIONAL NOT RESPONSIBLE FOR CONTRACTOR MEANS/METHODS/TECHNIQUES.** The Professional is not responsible for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work since these are solely the Contractor's responsibilities.

- 3.10 **PROFESSIONAL NOT RESPONSIBLE FOR CONTRACTOR ACTS OR OMISSIONS.** The Professional will not be responsible for the acts or omissions of any Contractor, or any Subcontractor, or any of their agents or employees, or any other persons performing any of the Work.
- 3.11 **CONTRACTOR NOT AN INTENDED THIRD PARTY BENEFICIARY OF THE PROFESSIONAL AGREEMENT.** The Contractor is not an intended third party beneficiary of the Professional Agreement between the Department and the Professional. Nothing in the Contract Documents between the Department and the Contractor should be construed to authorize any person not a party to the Professional Agreement to maintain any lawsuit involving that contract, unless otherwise provided by law.
- 3.12 **REPLACEMENT OF PROFESSIONAL.** In case of the termination of the Agreement for Professional Services, the Department may appoint a new Professional whose status under the Contract Documents shall be that of the former Professional. The decision of whether or not to terminate a Professional and appoint a new Professional rests solely with the Department.

ARTICLE 4: THE DEPARTMENT (OR THE FUNDING AGENCY ON A SMALL BUSINESS PROJECT ADMINISTERED BY THE FUNDING AGENCY)

- 4.1 **EASEMENTS AND RIGHTS OF ACCESS.** If necessary, the Department will secure and pay for easements for permanent structures with a right of access to the structures. If such easements are insufficient for the erection of temporary construction facilities and storage of materials, the Contractor shall obtain easements and space as necessary at no cost to the Department.
- 4.2 **ADMINISTRATIVE PROCEDURES.** The Department will issue the Administrative Procedures in effect as of the award date of the Contract to the Contractor. These Administrative Procedures are included in the Contract Documents and are incorporated by reference and made a part hereof, as if fully set forth herein. In the event there is any redundancy, conflict, contradiction, discrepancy or inconsistency between any portions of or criteria set forth in the Administrative Procedures and the other Contract Documents the most restrictive or demanding of the criteria shall take precedence over any less restrictive or demanding criteria as determined by the Department and/or the Department's designee.
- 4.3 **SEPARATE PRIME CONTRACTS.** The Department reserves the right to award other Contracts in connection with other portions of the Project (Prime Contracts) under these or similar conditions of the Contract. When separate Prime Contracts are awarded for different portions of the Project, the "Contractor" in the Contract Documents in each case is the Contractor which signs each separate Prime Contract.
- 4.4 **DEPARTMENT NOT RESPONSIBLE FOR CONTRACTOR MEANS/METHODS/TECHNIQUES.** The Department is not responsible for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work since these are solely the Contractor's responsibilities.
- 4.5 **DEPARTMENT IS NOT RESPONSIBLE FOR CONTRACTOR ACTS OR OMISSIONS.** The Department will not be responsible for the acts or omissions of any Contractor, or any of its subcontractors, or any of their agents or employees, or any other persons performing any of the Work for the Contractor.

- 4.6 **DEPARTMENT'S ACCESS TO THE WORK.** The Department will, at all times, be provided full access to any area the Department deems necessary in order to perform its responsibilities to inspect the Work. The Contractor shall provide the facilities for such access so the Department may perform its functions under the Contract Documents.
- 4.7 **DEPARTMENT'S USE AND/OR OCCUPANCY OF THE WORK.** The Department may use or permit the Using Agency to use or occupy any completed or partially completed portions of the Work, whether or not the time may have expired for completing the entire Work or said portions of Work. Such use or occupancy shall not be deemed an acceptance of the portion of the Work so taken or used. Prior to such use or occupancy, an inspection of the Work to be occupied by the Using Agency shall be made by the Department and the Professional to determine if it is in conformity with the Contract Documents. Any damage subsequent to the inspection due solely to the use and occupancy of the completed portion is not the responsibility of the Contractor.

ARTICLE 5: THE CONSTRUCTION MANAGER

5.1 INFORMATION AND SERVICES REQUIRED OF THE CONSTRUCTION MANAGER.

- A. The AOPC Executive Administrator shall serve as the Construction Manager. Subsequent reference in this Article to the "Construction Manager" shall mean the "AOPC Executive Administrator."
1. The Construction Manager will determine in general that the Work is being performed in accordance with the requirements of the Contract Documents, will keep the Department informed of the progress of the Work, and will endeavor to guard the Department against defects and deficiencies in the Work.
 2. **The Construction Manager will assist in the coordination of the activities of all Prime Contractors. As discussed in Article 6, each Prime Contractor has an affirmative duty to coordinate Work with the other Prime Contractors. Nothing in this Article relieves the Contractors of their coordination responsibilities.**
 3. **The Construction Manager will not have control over or charge of and will not be responsible for construction means, methods, techniques or procedures in connection with the Work, since these are solely the Contractor's responsibility.**
 4. **The Construction Manager will review, certify and recommend to the Department payment for all acceptable Applications for Payment from the Contractor, including final payment.**
 5. **The Construction Manager will review and advise the Department on Change Orders.**
- B. At a point in time no later than the Initial Job Conference, the Construction Manager shall provide all Prime Contractors a list of its principal staff assignments, including the Site Representative and other personnel to be in attendance at the site, identify individuals, their duties and responsibilities and list their addresses and telephone numbers.

- C. For purposes of this Contract, the Contractor shall consider and assume that any requisite approval shall be deemed to have been given by the Department for any such authority exercised by the Construction Manager.
- D. Except as expressly stated in the Contract, the Construction Manager shall have no authority and no liability to relieve the Contractor of any of its obligations under the Contract.
- E. It is not the intention of these Contract Documents to inhibit communications between the Professional, the Construction Manager and the Contractor as it relates to clarification, interpretation and other issues related to progressing of the Work. The Professional is available to discuss issues, provided such discussions or communications are coordinated with the Construction Manager.
- F. If, in the opinion of the Construction Manager, an emergency occurs affecting the Work or adjoining property, the Construction Manager may, without relieving the Contractor of any of its duties and responsibilities under the Contract, instruct the Contractor to execute all such Work or to do all such things as may, in the opinion of the Construction Manager, be necessary to abate or reduce the risk. The Contractor shall immediately comply, despite the absence of approval of the Department, with any such instruction of the Construction Manager.
- G. The Construction Manager's Site Representative will be responsible for the Construction Management of this Project, and shall carry out all required duties and exercise such authority as may be required under the terms of this Contract, including but not limited to reviewing Change Orders, Applications for Payment and Extensions of Time.
- H. The Construction Manager's Site Representative will execute the duties and authorities vested in the Construction Manager. The Construction Manager's Site Representative has been fully vested with a level of authority that is adequate to execute the requirements of the Construction Management for this Project. The Contractor is expected to and allowed to rely upon the directions that may be provided from the Construction Manager's Site Representative.
- I. Any communication given by the Construction Manager's Site Representative to the Contractor in accordance with such delegation shall have the same effect as though given by the Construction Manager or the Department.
- J. The Construction Manager may appoint any number of persons from its staff to assist in the carrying out of the Construction Manager's duties. Such assistants shall have no authority to issue any instructions to the Contractor unless such instruction may be necessary to enable the Contractor to carry out their duties and to secure their acceptance of materials, equipment or workmanship as being in accordance with the Contract, and any instructions given by any of them for those purposes shall be deemed to have been given by the Construction Manager.

- K. Instructions given by the Construction Manager shall be in writing, but if, for any reason, the Construction Manager considers it necessary to give any such instruction orally, the Contractor shall comply with such instruction. Written confirmation of such oral instruction given by the Construction Manager shall be deemed to be an instruction within the meaning of this subparagraph. If the Contractor, within seven (7) days of the oral instruction, confirms in writing to the Construction Manager the oral instruction and such confirmation is not contradicted in writing within seven (7) days by the Construction Manager, it shall be deemed to be an instruction of the Construction Manager. The provisions of this subparagraph shall equally apply to instructions given by the Construction Manager's assistants.
- L. In all cases of misunderstanding and disputes, verbal instructions that were not subsequently reduced to writing as discussed above in the preceding subparagraph will not be considered binding upon the Department. The Contractor must produce written evidence in support of its contentions and shall advance no claim in the absence of such written evidence, or use, or attempt to use any conversation with any parties against the Construction Manager, the Professional or the Department, or in prosecuting any claim against the Construction Manager, the Professional or the Department.
- M. Wherever, under the Contract, the Construction Manager is required to exercise its discretion by:
1. Giving decision, opinion or consent; or
 2. Expressing satisfaction or dissatisfaction; or
 3. Determining value; or
 4. Otherwise taking action which may affect the rights and obligations of the Department or the Contractor,

the Construction Manager shall exercise such discretion impartially within the terms and conditions of the Contract and having regard to all the circumstances. To the extent the Contractor disagrees with the Construction Manager's determination on an issue, any such decision, opinion, consent, expression of satisfaction, or dissatisfaction, determination of value or action may be subject to the Disputes Article of these General Conditions of the Contract.

- M. The Construction Manager's failure to insist on strict compliance with any term, condition or provision of this Contract or instruction under it, or to exercise any right, remedy, privilege or power provided under this Contract, or the Construction Manager's waiver of any breach, shall not relieve the Contractor of responsibility for compliance with the Contract requirements and shall neither waive nor prevent the Construction Manager or the Department from subsequently requiring strict compliance with that term, condition, provision, instruction, right, remedy, privilege or power.

- 5.2 **CONSTRUCTION MANAGER'S ACCESS TO THE WORK.** The Construction Manager or the authorized representative of the Construction Manager, will at all times be provided full access to any area it deems necessary in order to perform its responsibilities to assist coordination and inspect the Work. The Contractor shall provide the facilities for such access so the Construction Manager may perform its functions under the Contract Documents.

- 5.3 **REPLACEMENT OF CONSTRUCTION MANAGER.** In case of the termination of the Agreement for Construction Management Services, the Department may appoint a new Construction Manager whose status under the Contract Documents shall be that of the former Construction Manager. The decision of whether or not to replace and/or appoint a new Construction Manager or to assume construction management responsibilities is solely within the Department's discretion.
- 5.4 **THE CONSTRUCTION MANAGER NOT RESPONSIBLE FOR CONTRACTOR ACTS OR OMISSIONS.** The Construction Manager is not be responsible for the acts or omissions of any Contractor, or any of its subcontractors, or any of their agents or employees, or any other persons performing any of the Work for the Contractor.
- 5.5 **CONTRACTOR NOT AN INTENDED THIRD PARTY BENEFICIARY OF THE CONSTRUCTION MANAGER'S AGREEMENT.** The Contractor is not an intended third party beneficiary of the Agreement for Construction Management Services between the Department and the Construction Manager. Nothing in the Contract Documents between the Department and the Contractor should be construed to authorize any person not a party to the Agreement for Construction Management Services to maintain any lawsuit involving that contract, unless otherwise provided by law.

ARTICLE 6: THE CONTRACTOR

- 6.1 **REVIEW OF CONTRACT DOCUMENTS AND SITE CONDITIONS.**
- A. **BID STAGE INVESTIGATION AND DOCUMENT REVIEW:** During the bid stage, the Contractor had an affirmative duty to examine the nature and location of the Work, the soil and rock conditions and the character, quality and quantity of the materials that are required for the Work. Any geotechnical information available for review on the Project is provided for informational purposes only; it is not to be relied upon by the Contractor. The Contractor also has a duty to carefully study and compare the Contract Documents for consistency and the Contract Documents to the physical conditions of the job site. If the Contractor does not request a clarification during the bid stage with regard to the site conditions or discrepancies within the Contract Documents, the Contractor may not submit a claim after award of contract alleging insufficient data, ambiguity in the documents, incorrectly assumed conditions or misunderstanding.
- B. **POST-AWARD INVESTIGATION AND DOCUMENT REVIEW:**
1. **Site Conditions** – If, after award, the Contractor finds any material change in the condition of the site since the time of bidding, the Contractor must immediately inform the Professional in writing of the changed site conditions. The Professional, after consulting with and obtaining the Department's approval, and within seven (7) days after receipt of Contractor's notification, shall address the alleged material change in the site conditions and notify the Contractor in writing of such review.
 2. **Contract Documents** – If, after award, the Contractor contends that there are discrepancies or errors in the drawings and/or the specifications, the Contractor must submit the contention as a written Request for Information to the Professional and the Department within 10 days after discovering the alleged discrepancy.

- a. If the Department determines that the discrepancy/error constitutes a patent condition that should have been discovered during the bid stage (See, 6.1(A)) no additional time or compensation will be granted to the Contractor.
- b. If the Department determines the discrepancy constitutes a latent condition that would not be reasonably susceptible of being discovered during the bid stage, the Department will consider granting additional time and/or compensation to the Contractor, depending upon the specific nature of the condition.

6.2 **SMALL BUSINESS PRIME CONTRACTORS.** Small Business Prime Contractors must self-perform at least 51% of the Work and may only subcontract to other Small Businesses, unless otherwise authorized by the Department.

6.3 **DUTY TO COORDINATE THE WORK WITH OTHER PRIME CONTRACTORS.**

- A. The Contractor explicitly acknowledges that it has a contractual duty to coordinate the Work within their Contract with the Work to be performed on the Project by all other Prime Contractors.
- B. The Contractor agrees that this duty to coordinate exists between each Prime Contractor on the Project and that each Prime Contractor is an intended third party beneficiary of each Contract between the Department and each Prime Contractor.
- C. The Contractor further agrees that the efforts of the Construction Manager and the Department to facilitate the coordination of the Work shall not release or in any way diminish the Contractors' duty to coordinate the Work.
- D. If the Contractor sustains any damage as a result of any act or omission of any other Prime Contractor having a Contract with the Department or through an act or omission of a Subcontractor of such Prime Contractor, the Contractor shall have no claim against the Department, the Professional or the Construction Manager for such damage, but shall have a right to recover such damage from the other Prime Contractor.
- E. If any other Prime Contractor on the Project sustains any damage through any act or omission of the Contractor or a Subcontractor of the Contractor, the Contractor agrees to reimburse such other Prime Contractor for all such damages and to indemnify and hold the Department, the Construction Manager and the Professional harmless from all such claims.
- F. The Contractor shall indemnify and hold the Department, the Construction Manager and the Professional harmless from any and all claims or judgments for damages and from costs and expenses to which the Department may be subjected or which it may suffer or incur by reason of the Contractor's failure to comply with directions promptly.
- G. The exercise of the right of the Construction Manager or the Department to permit or require others to perform Work in or about the construction site shall not relieve the Contractor from any liability for loss or damage, or from any of its obligations under this Contract. No agreement or arrangement between the Contractor and others as to a division or proportionate share of liability for loss or damage incurred, or of the cost of insurance shall in any way relieve the Contractor from any liability or damage, or from any of its obligations under this Contract.

- H. Each Prime Contractor shall afford other Prime Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate its Work with the Work awarded by the Department to other Contractors.

6.4 **PROJECT COORDINATION.** Project Coordination shall be facilitated among the Prime Contractors through professional conduct and adherence to the Contract Specifications and the General Conditions, including, but not limited to, the following subparagraphs, which shall not be construed to be the exclusive means of achieving a properly coordinated Project:

- A. Each Contractor acknowledges the complex nature of the Project, the sequential nature of the Work to be performed under all of the Prime Contracts and the concurrent operations of this Project.
- B. Each Contractor shall become thoroughly familiar with the requirements of the Contract Documents, including the General Conditions of the Contract, the Administrative Procedures of the Contract, the Project Schedule and the Scope of Work for the Project.
- C. Close coordination shall be required of each Contractor with the Construction Manager, other Prime Contractors, the Department and others having an interest in the Project to assure that Work on-site, access to and from the site and the general conduct of operations is maintained in a safe and efficient manner, and that disruption and inconvenience to existing streets and the surrounding community is minimized.
- D. Each Contractor is responsible for coordinating their Work with every Prime Contractor on this Project.
- E. The Contractor shall, whenever conditions permit, proceed without delay and maintain the Project Schedule. All operations shall be conducted so as to comply with all applicable laws, ordinances and regulations.
- F. The Contractor shall maintain free access to all buildings, gates and areas of the site for emergency vehicles, service vehicles and fire-fighting equipment and at no time shall block off or close roadways or fire lanes without providing auxiliary roadways and means of entrance acceptable to the Department.
- G. There may be limited parking at the site. Each Contractor and their sub-contractors must limit temporary parking of company vehicles and storage of materials as can be accommodated within the limits of the construction site and staging area as directed by the Department unless noted otherwise within the Contract Documents. All transportation to the site is the responsibility of each Prime Contractor. Contractors shall not park in spaces reserved for State employees. If more than one ticket is issued to an individual for parking violations, the Department has the authority to prohibit the owner of the vehicle(s) from continuing work at the site.
- H. Prime Contractors shall work similar hours in order to prosecute the Work under an orderly and systematic means. If there is a disagreement between Prime Contractors relative to the normal work hours, the Department shall establish the hours to be worked by all Prime Contractors. No claim of hardship shall be made by any Prime Contractor as a result of the Department's decision.

1. Whenever the Contractor intends to depart from normal work hours, it shall notify the Department in writing at least forty-eight (48) hours in advance, unless there is an emergency-type condition requiring immediate repair or attention. If such an emergency condition occurs, the Contractor shall provide immediate written notification to the Department. Failure of the Contractor to give such timely notice may be cause for the Department to require the removal or uncovering of Work performed without the knowledge of the Department, at no additional costs or Extension of Time, regardless of whether or not the Work is deemed properly installed.
- I. The Contractor shall coordinate the Work with all other Contractors as outlined in the Coordination Drawings so that interference between mechanical, electrical, architectural and structural Work, including existing services, will be avoided. The Prime Contractors shall also coordinate the Work so as to provide the maximum practical space for operation, repair, removal, and testing of equipment. The Prime Contractors shall keep pipes, ducts, conduit and the like as close as possible to ceiling slab, walls, and columns to take up a minimum amount of space. The Prime Contractors shall locate pipes, ducts, conduits and equipment so that they do not interfere with the intended use of eyebolts and other lifting devices.
 - J. Particular attention shall be given to coordination and correlation of submittals as to the requirements of the Contract Documents regarding:
 1. Motor size;
 2. Motor service connections for size and type of materials;
 3. Equipment size and supports;
 4. Piping routing;
 5. Penetration of materials and fire stopping; and
 6. Connections to another Contractor's Work.
 - K. Contractors shall coordinate Work to determine exact locations of outlets, pipes, diffusers and pieces of equipment to avoid interference with properly installed Work.
 - L. The Contractor shall be responsible for a complete operating system as designated within the Contract Documents. Major items for Mechanical Work are specified in Division 15 and Electrical Work in Division 16. This may not be the complete extent of this Work, however, since requirements may appear in other locations within the Contract Documents. Mechanical and Electrical Work shall be verified with other sections. Contractors performing that Work shall supply sufficient information for completing the system.
 - M. As various areas or parts of the site and building are complete, or otherwise suitable for the subsequent Contractors to commence Work, those Contractors shall be allowed to deliver materials and start Work. Such phased commencement shall be in accordance with the Project Schedule. Prior to commencing Work at any area or part, certain contract requirements shall be met for that area or part, such as verification of conditions as specified. Material lay down areas shall be coordinated with the Department and other Contractors.

6.5 **COORDINATION DISPUTES.** The Lead Contractor is principally responsible for the coordination of the Project Work. The Contractor is to coordinate all of its Work with the Work of other Contractors for proper function and sequence to avoid construction delays. If necessary, in instances when the Lead Contractor and the other affected Prime Contractor(s), after due diligence, cannot agree on a coordination decision, the Department will upon written request from one or more of the Prime Contractors, take whatever action(s) the Department deems necessary to resolve the coordination issue, including, but not limited to:

1. Withholding any payment otherwise due until the Contractor(s) comply with the Construction Manager's or the Department's direction; and/or
2. Directing others to perform portions of the Work and deducting the cost of the Work from the Contractor's Contract balance; and/or
3. Deleting through credit Change Orders any and all portions of the Work.

The Department's decision in no way releases the Prime Contractors from their continuing duty to coordinate the Work. The final coordination decision of the Department will be observed, accepted, and fully followed by all Contractors and their subcontractors on the Project, subject only to the disputes procedure set out in these General Conditions of the Contract. The progress of the Work in accordance with the final coordination decisions of the Department shall not be delayed pending any such dispute proceeding.

6.6 **COORDINATION OF SUBCONTRACTORS.**

- A. The Contractor shall be responsible for all acts of its subcontractors utilized under this Contract, and for their compliance with all terms and provisions of the Contract applicable to their performance. The Contractor shall continuously coordinate the Work of all subcontractors to assure proper processing and progress of the Work. The Contractor shall require each Subcontractor to comply with the following:
 1. Examine the shop drawings and the Work of other Prime Contractors and all sections of the specifications to the extent necessary for satisfactory installation of its Work, and connection between its Work and the Work of other Prime Contractors; and
 2. Coordinate its Work accordingly; and
 3. Cooperate with other Contractors and Subcontractors toward timely and satisfactory completion of the Project.
- B. Subcontractors proposed by the Contractor will not be acceptable to the Construction Manager or the Department if evidence exists or arises during the Work that the proposed subcontractors are unable or unwilling to comply with the requirements of the Contract Documents which govern the Work of the subcontractors involved, or if the Subcontractors have experience which is inconsistent with requirements for the Work of the Subcontractors. In these instances, the Contractor will not be entitled to a change in the Contract Sum or Contract Duration and shall propose substitute Subcontractors for unacceptable Subcontractors.
- C. The failure of any Subcontractor to complete its portion of the Work in a satisfactory manner within the proper time will not relieve the Contractor of responsibility for the proper and satisfactory execution and completion of the entire Work.

- 6.7 **MEANS, METHODS AND TECHNIQUES OF CONSTRUCTION.** The Contractor is solely responsible for all construction means, methods, techniques, procedures, and safety programs in connection with the work under the Contract unless the contract documents require other and additional responsibilities from the Contractor. Neither the Professional nor the Department shall have control over or charge of and will not be responsible for construction means, methods, techniques or procedures, or for safety precautions or programs in connection with the Work, since these are solely within the Contractor's responsibility.
- 6.8 **USE OF SITE.** The Contractor shall confine its apparatus, the storage of its equipment, tools and materials, and its operations and workers to the limits of contract as permitted by law, ordinances, permits, the Contract Documents and the Department. The Contractor shall not unreasonably encumber the site with any materials or equipment. The Lead Contractor shall have the authority to identify the lay down area based upon the Project Schedule.
- 6.9 **MOBILIZATION.** Mobilization limits shall be consistent with the description set forth in the Administrative Procedures. The following items are included as mobilization, and cannot be included separately on the breakdown:
- Contractor's field office
 - Inspector's field office (unless otherwise specified in specifications)
 - Heating, lighting and telephone for the field offices
 - Installation for the offices
 - Installation of signs
 - Site survey
 - Construction fence, if required
 - Sidewalk bridge, where required and build to all applicable OSHA requirements
 - Safety and first aid equipment
 - Temporary power setup
 - Temporary power distribution
 - Temporary water
 - Temporary sanitary
- 6.10 **JOB CONFERENCES.** Job Conferences may be held as often as required, but shall be held at least bi-weekly and must be attended by all Contractors. **Regardless of the status of the Work, all Contractors must have a representative authorized to make all decisions and representations affecting the Contractor attend each Job Conference.** The names of the authorized representatives of the Contractor shall be submitted to the Department at the Initial Job Conference. The Construction Supervisor (if applicable) and/or the DGS AOPC Executive Administrator, Director or Construction Manager or Construction Inspector Supervisor, and the Professional shall also attend Job Conferences. The Construction Manager (or the AOPC Executive Administrator on projects without a Construction Manager) shall advise all concerned of the dates and times of Job Conferences, which shall be attended whether or not a particular Contract may be affected. Failure to attend bi-weekly Job Conferences or any other mandatory meeting (unless excused by the Department) constitutes a breach of this Contract.

Any delays or damages incurred by other Contractors due to the failure of a Contractor to attend the Job Conference may be deducted from the absent Contractor's balance if a Prime Contractor submits a written request for such action to the Department in accordance with the Disputes Article of these General Conditions.

- 6.11 **CONTRACTOR'S STAFF AND PHONE NUMBERS.** Within fifteen (15) days of the effective date of the Contract, the Contractor shall submit to the Department or the Department's designee a list of its proposed principal staff assignments, including the Superintendent and other personnel to be in attendance at the site, identify individuals, their duties and responsibilities and list their addresses and telephone numbers.
- 6.12 **DRAWINGS AND SPECIFICATIONS AT THE SITE.**
- A. The Contractor shall maintain in good order at the site, for the Department and the Professional, one (1) record copy of all drawings, specifications, bulletins, addenda, contract modifications, change orders and requests for information. As appropriate, these documents will be updated daily to record accurately as-built conditions, selections and changes.
 - B. The Contractor shall also maintain at the site one (1) record copy of approved shop drawings, catalog data, operating and maintenance instructions, certificates, warranties, samples and similar submittals. These shall be available to the Department and Professional at all times, and they shall be delivered to the Professional as part of the Operation and Maintenance Instruction Manuals described in these General Conditions.
 - C. The Contractor shall also maintain one (1) record copy of approved coordination drawings, to include as-built conditions, selections and changes to be submitted to the Professional and included as part of the Operation and Maintenance Instruction Manuals. The Contractor shall include the value of the As-Built Record Drawings as a line item on its schedule of values, which shall be not less than 10% of the amount included for mobilization. The amount included is subject to the approval of the Department.
- 6.13 **PROVISION OF LABOR AND MATERIALS.** Unless otherwise specifically noted, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and all other facilities and services necessary for the proper execution and completion of the Work.
- 6.14 **RESPONSIBILITY FOR THOSE PERFORMING WORK.** The Contractor is responsible to the Professional, the Department and all other Prime Contractors for the acts and/or omissions of all of its employees and all subcontractors, their agents and employees, and all other persons performing any of the Work under a contract or purchase order with the Contractor.
- 6.15 **EQUIPMENT AND MATERIALS.** The Contractor shall furnish and deliver the necessary equipment and materials in ample quantities and as frequently as required to avoid delay in the progress of the Work. The Contractor's materials or equipment shall not interfere with the orderly progress of the Work, nor endanger the lives of any operators or persons within the vicinity of the stored equipment or materials, nor to cause damage to the adjacent property or highways. Any damage resulting from the operations of such equipment to any person or property is the responsibility of the Contractor in accordance with the Insurance paragraph of these General Conditions.

6.16 **SUPERVISION.** If a Contractor has more than one Contract on the Project, it must provide a separate Superintendent for each Prime Contract. The Contractor shall provide on-site supervision by an employee who shall act as the duly authorized and competent Superintendent. If the Contractor fails to comply with the provisions of this paragraph, the Department may: (1) withhold any payments which are or may become due to the Contractor; and/or (2) suspend the work at the expense of the Contractor, including the cost associated with the impact on the work of the other Prime Contractors; and/or (3) take a credit for each day the Contractor did not have the approved Superintendent on site.

- A. **ON SITE:** This Superintendent shall be on-site during the progress of the Work, including any time when any Work is being performed by any Prime Contractor or any subcontractor that will impact the Work of the Contractor. The Superintendent shall represent the Contractor, and all communications given to the Superintendent shall be binding as if given to the Contractor. The Superintendent must attend all Monthly Schedule Update Meeting and every bi-weekly job conference. The Monthly Schedule Update Meetings shall be scheduled and chaired by the Superintendent for the Lead Contractor.
- B. **QUALIFICATIONS:** At the Initial Job Conference, the Contractor shall submit to the Department the name and qualifications of its Superintendent. The Superintendent must be acceptable to the Department. The Contractor shall not change its Superintendent at any time during the Project without the prior written approval of the Department, and must submit to the Department, in writing, justification for the change, along with the name and qualifications of the individual whom the Contractor proposes to be the new Superintendent. The Department reserves the right to require a change in the Superintendent if the Superintendent's performance is deemed by the Department to be inadequate.

6.17 **GOOD ORDER AMONG EMPLOYEES.**

- A. The Contractor shall enforce good order and conduct among its employees at all times. Every employee shall be skilled in the performance of work assigned to that employee. All construction personnel shall be respectful of all Commonwealth employees and the general public.
- B. Any incidents of disrespect, verbal abuse, threatening statements, unwelcome comments, unwelcome interaction or any form of harassment from any construction personnel toward any Commonwealth employee, designee employees, or the general public is strictly prohibited. Any such act shall constitute sufficient cause for the Department to demand that the Contractor dismiss the person(s) from the job site.
- C. If any Contractor's personnel ignores or refuses to take action on any requirements of the Contract Documents, ignores or refuses to take immediate action to correct any endangerment to the health and safety of the public, as solely determined by the Department then this action and/or inaction shall be sufficient cause for the Department to demand that the Contractor dismiss the person(s) from the job site.
- D. When, in the sole determination of the Department, it would be in the best interest of the Project and the Commonwealth to have a Contractor's personnel removed from the Project for the reasons described above, then the Department may demand that the Contractor dismiss from the job site. Any violation is sufficient cause for the Department to direct that the Contractor remove such person from employment on the Project, and direct that they shall not be re-employed on that Project without the written consent of the Department. Such actions taken by the Department shall not constitute grounds for a delay claim. The Department will not be responsible for any delays caused to the Project due to any individual being removed from the Project.

6.18 **PERMITS AND FEES.** In compliance with the Pennsylvania Construction Code Act (PCCA), 35 P.S. §7210.101 to 7210-1103, as amended (a.k.a. Uniform Construction Code Statute or UCC), only the Department of Labor and Industry has jurisdiction for plan and specification review and inspection authority over all State-owned buildings and facilities. Consequently, Prime Contractors on DGS projects shall not obtain any building permits from local authorities. The Contractor, shall, however, continue to obtain and pay all fees for all other necessary permits, licenses and certificates required by law or otherwise for the proper execution and completion of its Work. The Contractor shall furnish proof of payment for all such items, or proof that no such items are required. This proof must be furnished prior to the second Application for Payment. The Contractor will be reimbursed for the actual cost of such items by change order and the Contractor will not be entitled to any mark-up on the items unless otherwise authorized by the Department.

6.19 **PCCA/UCC INSPECTIONS & COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, ETC.**

- A. The Contractor shall give all notices and comply with all applicable laws, ordinances, regulations, rules and orders of any public authority bearing on the performance of the Work. If the Contractor observes any of the Contract Documents conflicting with applicable laws, ordinances, regulations, rules and orders of any public authority in any respect, it shall promptly notify the Department in writing. Any conflicts will be addressed by the Department. If the Contractor performs any work knowing it to be contrary to such applicable laws, ordinances, regulations, rules or orders of any public authority, and without such written notice to the Department, it assumes full responsibility for that action and shall bear all costs attributable thereto.
- B. This Project shall be subject to the Pennsylvania Construction Code Act (PCCA) and the Uniform Construction Code Statute. Each Prime Contractor shall become familiar, and is responsible for complying, with all aspects of the PCCA and the UCC, including but not limited to the site inspection procedure set forth in the Department of Labor & Industry's Inspection Procedures. For purposes of inspection, the Contractor shall be deemed the "owner" as described in the PCCA/UCC. The most recent list of inspections required by L&I can be found on L&I's website.
- C. Each Prime Contractor must include the PCCA/UCC inspections (to the extent they are applicable to their scope of Work on this Project) in the Project Schedule created pursuant to the applicable paragraph(s) in the General Conditions and Administrative Procedures.
- D. The L&I mandated advance notice, defined for each inspection activity, shall be considered and included as lead time in the development of the Project Schedule. Each Prime Contractor shall assume the responsibility of the permit applicant/permit holder as applicable. Each Prime Contractor shall be responsible to contact L&I to schedule the required inspections in accordance with the inspection procedures outlined in the Building Permit. Failure by any one Prime Contractor to do so shall not be cause for a delay claim against the Department. A copy of the Building Permit, which includes a list of the required inspections and the time frames for notifying the Department of Labor & Industry, is available from the Department.

6.20 **SURVEYS, LAYING OUT AND EXECUTION OF THE WORK.**

- A. The Contract Drawings shall be used for all dimensions in laying out the Work under this Contract.
- B. Each Prime Contractor is responsible for laying out their work from the points established by the drawings.

- C. The Contractor shall utilize a competent licensed surveyor, to lay out the Work from the initial points established on the drawings.
- D. The surveyor shall take as a basis the figures on the plans, and shall lay out all intersections, all building lines at corners and centers, test and check all elevations and levels, locate levels and plumb lines of floors, walls, beams and columns and other parts of the construction as the Work progresses.
- E. All Work of every description shall be laid out by the Contractor, who is solely responsible for its correctness. The Contractor shall pay for all expenses in connection with this Work.
- F. The Contractor shall furnish approved copies of all information (site plans, technical data, topographic surveys, As-Built Record Drawings, etc.) to other Prime Contractors as necessary for the purpose of coordination of the Work. The Contractor shall submit one copy of its survey notes to the Department for record keeping. Submission of the survey notes does not relieve the Contractor of its duty to identify discrepancies on the site or in the Contract Documents.
- G. All significant monuments and benchmarks identified by the Contractor shall be preserved for use by other Contractors. Receiving these monuments and benchmarks from another Contractor does not relieve each Contractor of the responsibility for its own layout, including specific layout required by applicable sections of the Contract Documents.

6.21 **DISCREPANCY OR INTERFERENCE WITH OR BY THE WORK OF OTHER CONTRACTORS.**

- A. Since the proper execution or results of any part of the Contractor's Work will depend upon the Work of other Prime Contractor(s) (or such other Prime Contractor's Subcontractor(s)) the Contractor shall inspect and promptly report in writing to the Professional, the Department and/or the Department's designee, and the Contractor(s) whose Work is allegedly incorrect describing any discrepancies, defects or delays in the Work done by other Prime Contractor(s) that render it unsuitable for such proper execution and results.
 - 1. If the Contractor begins physical work, the Department assumes that the Contractor has inspected and reported any of these discrepancies.
 - 2. In the event that any Prime Contractor commences Work, failure of the Contractor to so coordinate, inspect and report constitutes an acceptance of the other Prime Contractor's Work as fit and proper to receive its Work. This excludes defects that may develop in the other Prime Contractor's Work after the execution of the Contractor's Work. If such defects occur, the Contractor who installed the defective Work shall be responsible to correct its Work accordingly.
- B. The Contractor's Work shall be conducted so as to not interfere with the Work of any other Contractors. In the event that any Prime Contractor does not complete the various portions of the Work in cooperation with the other Prime Contractors, and as a result, causes damages or injury to any other Prime Contractor, the damaged or injured Prime Contractor may submit a request for the Department to withhold funds, or settle by contract or arbitration such claim or dispute in accordance with the provisions of the Dispute Article of these General Conditions.

- C. Each Contractor shall be liable for all damage or destruction caused directly or indirectly (including, but not limited to delay and inefficiency claims) by its operations to all parts of the Work, both temporary and permanent, and to all adjoining property.

6.22 **EXISTING UTILITIES AND SERVICES.**

- A. The Contractor shall comply with all notification requirements established by applicable law relative to protection of underground utilities and shall also check the location of existing utilities required to remain in place, including those overhead or underground, and take all necessary precautions to prevent injury or damage during the performance of the Work.
- B. Each Contractor doing excavation work is responsible for costs associated with locating all existing underground utilities prior to commencing excavation, including utilities that are owned and operated by the Department of General Services or the Using Agency.
- C. Each Contractor shall be responsible for the associated cost of any utility interruption and repair due to this excavation if the utility location was not requested, and/or proper location procedures were not performed and/or followed prior to commencing excavation.
- D. The Contractor responsible for damaging the utility shall immediately notify the utility company and the Department and assume the cost of restoring the service of any utility disrupted due to excavation, or any Contractor action, whatever the circumstance. The Department reserves the right to immediately restore the service of any utility disrupted due to actions of a Contractor and to deduct the cost of such restoration from the responsible Contractor's next Application for Payment.
- E. Utilities and/or other services, which are shown, or not shown but encountered, shall be protected by the Contractor from any damage from any Work and operations of the Contract, unless or until they are abandoned. If the utilities or services are not abandoned at time of damage, the Contractor shall immediately assume the cost of repairing any damage from its Work or operations and assume the cost of restoring the utilities and services to the condition that existed prior to the damage.
- F. The Contractor and Subcontractor of any tier shall be responsible for all damage to the Project including the existing building and grounds due to its operation under this Contract. Repair or replacement of damaged items shall be to the satisfaction of the Department.

6.23 **INTERRUPTION OF EXISTING SERVICES:** Whenever it becomes necessary to interrupt existing services in use by the Using Agency, such as sewer, water, gas and steam lines, and electric service, the Contractor responsible for working outside of normal working hours shall perform the Work during such hours, as required by the Department in coordination with Using Agencies or other tenants, so as to complete the work and restore all existing services with minimal interruption or disruption to the Department, Using Agencies or other tenant. The Contractor responsible for the Work shall continue its work on a twenty-four (24) hour basis until the Work is completed and the service restored, or at such alternate time required by the **Department, its designee, or the Using Agency or other tenants**. Before beginning such Work, the Contractor shall apply in writing and receive approval in writing from the Department to establish a time when interruption of the service will cause a minimum of interference with the activities of the Using Agency. **The Contractor's request to interrupt ANY SERVICE must be submitted to the Department at least FIFTEEN (15) CALENDAR DAYS PRIOR to the date of the desired interruption.**

- 6.24 **CONTRACTOR PERFORMING EXCAVATION OR DEMOLITION.** The Contractor performing excavation or demolition work shall fully comply with the requirements of the Pennsylvania One Call Act (Act 287-74, approved December 10, 1974, as amended) relative to protection of underground utilities, to the extent that this language conflicts with Act 287-74, the statutory language controls. Protection of underground utilities shall include, but not be limited to:
- A. Ascertaining the approximate location and type of utility lines adjacent to and within the contract limits by inspecting drawings or obtaining a list of utility companies' lines adjacent to and within the contract limits from the County Recorder of Deeds and then contacting the utility company.
 - B. Three (3) business days before excavation or demolition, request information from the utility companies regarding the steps Contractors should take to avoid damage.
 - C. Provide the Department and each equipment operator or blaster with information obtained in (A) and (B) above.
 - D. Report to the Department and the utility company any damage to utility line made or discovered in the course of the work.
 - E. Alert the Department and any occupants of premises as to emergency created or discovered.
 - F. Provisions of (A), (B) and (C) do not apply in an emergency. An emergency is any condition constituting a clear and present danger to life or property caused by escaping gas, exposed wires or other utility line breaks or defects.
 - G. Each Contractor shall be responsible for all dewatering as noted under Environmental Quality Control and per the specifications.
- 6.25 **OBSERVATION OR INSPECTION OF THE WORK BY OTHERS.** Observation and/or inspection of the Work by the Construction Manager, Professional or DGS shall not relieve the Contractor of full responsibility for completing the Work in accordance with the Contract Documents. The Contractor's responsibilities include, but are not limited to, performance, supervision, scheduling and coordination of the Contractor's Work.
- 6.26 **COORDINATION DRAWINGS FOR SLEEVES AND OPENINGS.**
- A. Contractors requiring sleeves and openings for their work in any deck, concrete slab or wall shall furnish to the Department and all other Prime Contractors involved a complete set of location sketch drawings showing size and shape of openings. Sepia reproducible prints of the Contract Drawings may be obtained from the Professional by written request to the **Professional** at the Contractor's cost for this purpose. Each Prime Contractor must complete these sketch drawings in accordance with the construction schedule. Each Prime Contractor is responsible for reviewing every other Prime Contractors' drawings so that there will be no interference and/or conflict with its portion of the Work. Any potential conflict or interference shall be reported in writing to the **Lead Contractor**, with copies to the Department and the Professional. The Lead Contractor is principally responsible for coordinating and resolving any interferences and/or conflicts identified by the Prime Contractors. Disputes arising out of this paragraph shall be resolved in accordance with the Coordination Disputes paragraph of these General Conditions.

- B. The responsibility for identifying and dimensioning floor, wall, and ceiling systems penetrations lies with the Contractor whose Work penetrates these systems. The location, elevation, and dimensions of the opening, as well as installation of sleeves, fire safing, escutcheons and inserts shall be the responsibility of the Contractor requiring the opening or penetration. All Prime Contractors who's Work encompasses concrete, masonry, and ceiling installation shall provide openings required by other Contractors as agreed to in the previous paragraph.
1. The need for the opening or penetration, as well as the details, shall be given to the appropriate Contractor no later than seven (7) days prior to the wall, floor, or ceiling system being formed or installed, based on the current progress of the Work. The Contractor will be responsible to maintain the coordination of all penetrations during the construction with each other Contractor.
 2. Any Contractor who fails to provide adequate notification or details to the wall, floor or ceiling Contractor shall be responsible for providing the openings in accordance with the provisions of the Cutting and Patching paragraphs of these General Conditions.
 3. Cutting and Patching of penetrations through existing systems or through systems completed earlier in the Project are the responsibility of the Contractor requiring the penetration.
 4. Cutting of metal deck in floors and roof openings is the responsibility of the Contractor requiring the opening. Deck shall not be removed until the day the penetration is to be made. The Contractor shall verify that conduits, piping or structural components installed above or below the deck are clear of the opening prior to cutting and patching.
 5. At all openings that create a potential safety concern, the Prime Contractor who created the opening shall be responsible to provide adequate and safe protection.

6.27 **CUTTING AND PATCHING OF NON-ROOF SYSTEM WORK.** The Contractor shall, at its own cost, do all cutting, fitting and/or patching of existing materials required for its Work to the minimal extent necessary in accordance with the Contract Documents or to make its several parts fit together properly, and fit it to receive or be received by work of other Contractors. Any cutting, patching or excavation by the Contractor shall be supervised and performed in a workmanlike manner that will not endanger persons nor damage or endanger the Work or any fully or partially completed construction of any other Prime Contractor. The Contractor making the cut shall be responsible for restoration of work or any adjacent repairs. Any cost incurred by another Prime Contractor or the Department due to non-conforming or improperly sequenced work shall be borne by the Prime Contractor responsible therefore. Any damages to the new or existing facility shall be borne by the Contractor responsible for the damage.

6.28 **CUTTING AND PATCHING OF ROOF SYSTEMS.** Unless otherwise specified, each Contractor is responsible for its own cutting and patching of existing roof systems necessitated by its Work. The cutting and patching must be performed by a qualified Contractor/Subcontractor. The cutting and patching must maintain any current warranty or bond on the roofing, and, whether under warranty or not, must be done in accordance with the manufacturer's written directions.

6.29 **CLEANING THE PROJECT.**

- A. Each Prime Contractor shall keep the building and grounds maintained free from accumulations of waste materials, rubbish and debris.

- B. The Contractor shall maintain a clean and safe passageway for the Department, the Professional and others utilizing the facility.
1. Each Contractor shall insure that their Work shall not damage streets connecting to the Project, which shall be protected, from mud, sand, and stones/gravel. Streets and adjacent property sites shall be kept free from run-off, litter, and/or debris in any form from the project site. Mud, litter, and/or debris from the construction site that appears on adjacent property sites shall be removed immediately. All mud collected on vehicle tires shall be removed by each Contractor before leaving the construction area. If any mud or debris from the project site collects on the streets, it shall be removed immediately by the responsible Contractor to prevent any hazards to vehicular or pedestrian traffic, as well as from entering the storm sewer system. All streets and property sites adjacent to the project site shall be cleaned of construction related debris, dust, litter, and mud daily.
 2. Each Contractor is prohibited from discharging any waste products from concrete trucks or from concrete coring work, or any other unsuitable materials, fluids or other products on the site, or into the storm sewer system.
 3. If the responsible Prime Contractor fails to comply with these requirements, the Department reserves the right, with twenty-four (24) hours prior notice to the responsible Prime Contractor, to assign another Contractor to clean and/or remove mud, trash, litter, debris, or any unauthorized discharge from the project and/or the adjacent streets or properties. In such case, the cost of the cleaning and/or removal, or mobilization for cleaning and/or removal shall be deducted by the Department from the responsible Prime Contractor's next Applications for Payment.
- C. The Contractor, and subcontractors of any tier, shall be responsible for and include in its bid, the cost for cleanup and removal from the site of its identifiable debris including, but not limited to, bulky debris, packaging containers, unused materials and equipment, and materials unsuitable for disposal by standard commercial procedures (i.e., masonry and concrete materials, crates, combustible items, etc.).
- D. Construction debris and rubbish generated by a Contractor's activity shall be removed by the Contractor from the point of origin daily and shall not be allowed to accumulate. Open rubbish piles are not allowed. The Department shall have the right to establish a clean-up routine. The Contractor will be expected to participate fully in this routine.
- E. All Prime Contractors shall cooperate with each other and shall use reasonable diligence and make every effort, in connection with their Work, to avoid excessive dirt, rubbish and general refuse and to minimize the extent of cleaning and removal thereof required of each Prime Contractor.
- F. Without relieving the Contractors and subcontractors from any of their respective obligations hereunder, the Contractors may, if they so desire, make their own arrangements for cooperative effort in keeping the premises clean and in the removal of surplus and scrap materials, bulk waste and debris as herein before required.
- G. If a dispute arises between the Prime Contractors as to their responsibility for cleaning up as required by this section, the Department may authorize another Prime Contractor to perform the cleanup and charge the cost of it against the several Prime Contractors in an amount the Department determines to be appropriate.

- H. If the Contractor fails to maintain a satisfactory cleanup program, the Department will issue a twenty-four (24) hour written notice of deficiency. If the Contractor does not respond to the written notice from the Department, then the Department shall arrange for the performance of the cleanup and backcharge the Contractor for all costs associated with the cleanup.
 - I. All construction salvage materials, not including items specified elsewhere to be returned to the Department, become the property of the Contractor and shall be taken from the premises. On-site storage of materials and equipment, other than for use in this Project, will not be permitted.
 - J. No rubbish or debris shall be dropped from a height of more than six feet, or thrown out of any window or opening without a chute.
 - K. Every day the site and premises shall be left in a neat, unobstructed condition, and all Work shall be in good repair and order.
 - L. The following, which is not all-inclusive, lists the cleaning levels required by each Contractor as applicable to the scope of Work included in its Contract prior to Final Inspection:
 - 1. Remove labels which are not required as permanent labels;
 - 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition;
 - 3. Remove substances which are noticeable as vision-obscuring materials;
 - 4. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of dust, stains, paint splatters, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition;
 - 5. Clean concrete floors; in non-occupied spaces, broom clean; remove all stains, marks, paint, rust, etc. caused by construction activities.
 - 6. Clean plumbing fixtures to a sanitary condition, free of stains, including those resulting from water exposure; and
 - 7. Clean mechanical and electrical equipment, ductwork and replace all filters.
 - M. Prior to Final Inspection, in addition to the cleaning specified above, the site shall be prepared for occupancy by a thorough cleaning, including removal of all trash, rocks, wood and or debris as required. Roadways and sidewalks shall be washed and swept clean. These activities shall be coordinated by the Lead Contractor.
 - N. Before the acceptance of the Project by the Department at the Final Inspection, all visible finished surfaces and materials shall be thoroughly cleaned and/or retouched by the responsible Contractor at its own cost and shall be left in a clean and unblemished condition to the satisfaction of the Department. Surfaces that are to be finished shall have all plaster, mortar and other surplus materials removed before beginning painting, varnishing and other finishing.
- 6.30 **REPAIR OF DAMAGED WORK.** The Department shall coordinate the repair of all new Work as well as existing Work required remaining but which becomes damaged during the course of the Work. This repair work shall include, but not be limited to, restoration of surfaces to the original condition, grading, landscaping or seeding, pavement markings and refinishing.

- 6.31 **CHASES AND OPENINGS.** The General Contractor (.1) will construct or have built into new walls, new partitions and new floors, all such chases and openings as are required for the Project. Each Prime Contractor will be responsible to confirm that the chases and openings affecting its Work are installed in accordance with the drawings submitted to the General Contractor.
- 6.32 **CHASES AND OPENINGS AFTER CONSTRUCTION OF WALLS.** If cutting of chases and openings is required after construction of walls, partitions or floors is completed, the Department may require the Work to be performed in such a manner as to result in unmarred Work, even to the extent of requiring the removal and rebuilding of walls and partitions, all of which shall be at the sole cost of the responsible Contractor.
- 6.33 **TESTS.** If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be inspected, tested or approved, the Contractor shall give the Department timely notice of its readiness and of the date arranged, so the Department may observe such inspection, testing or approval. The Contractor shall be responsible for scheduling such inspections, tests and approvals and shall bear all costs of such inspections, tests and approvals, unless otherwise provided.
- A. All expenses incurred in the collection, packing and delivering of samples or materials or equipment to the Project site shall be paid for by the Contractor.
 - B. The Contractor shall pay the costs of transporting samples from the Project site to the laboratory and for the testing of same, except where otherwise noted in the General Conditions, specifications, or called for in the Contract drawings.
 - C. Approved samples to be incorporated in the building shall be returned to the Project site by the testing laboratory under the supervision of the Contractor.
 - D. The Contractor shall bear all costs of such inspections, tests and approvals, including such assistance, labor, electricity, fuels, storage, apparatus and instruments as are normally required for examining, measuring and testing any materials or Work and shall supply samples of materials, before incorporation in the Work, for testing as may be selected and required by the Department or the Professional.
 - E. Prior to testing, inspection or verification, the Department may require written sign-off by the Contractor's representative affirming that the item of Work or installation is complete and ready for such testing, inspection or verification.
 - F. Work requiring testing, inspection or verification of probable compliance of Work shall not proceed to be concealed, covered or closed up until approval is given by the Department. Examples of work to be reviewed before being concealed include but are not limited to: sub-grades prior to backfilling, verification of rebar and formwork prior to placing concrete, and installed Work in concealed spaces before the space is closed.
 - G. The non-productive downtime or delay in an operation required to provide the reasonable opportunity for testing, inspection or verification by the Department constitutes a portion of the Contract Work and is included in the Contractor's contract price. No claim for additional compensation will be allowed related to establishment and timely observation of testing, inspection or verification of Work.
 - H. Testing, inspection or verification by the Department shall in no way relieve the Contractor of its obligation to meet all the requirements of the Contract Documents.

- I. Contractor is responsible for all Quality Control testing as specified in the Contract Documents.
- 6.34 **SPECIAL TESTING.** If, after the commencement of the Work, the Department determines that any work requires special inspection, testing or approval not included in the Tests Paragraph of these General Conditions, the Department will, by written authorization, instruct the Contractor to order such special inspection, testing or approval, and the Contractor shall give notice as in the Tests Paragraph of these General Conditions.
- A. If such special inspection or testing reveals a failure of the Work to comply with the requirements of the Contract Documents, or with respect to the performance of the Work, with laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof, including the Professional's additional services made necessary by such failure.
- B. If the work is in compliance, the Department shall bear such costs and an appropriate change order shall be issued to the Contractor.
- 6.35 **CERTIFICATES OF INSPECTION.** The Contractor is responsible to secure any required certificates of inspection, testing or approval. Such required certificates of inspection, testing and approval include those required by the UCC. The Contractor shall deliver such certificates to the Professional and the Department within seven (7) days after the Contractor secures the certificate.
- 6.36 **OBSERVATION OF TESTING.** The Professional and, where required by the Uniform Construction Code, Labor and Industry, shall observe the inspections, tests or approvals required by the Tests and Special Testing Paragraphs of these General Conditions, and it shall be the Contractor's responsibility to serve sufficient notice to the Professional and where required by the UCC, to Labor and Industry, of such inspections, tests or approvals to enable the timely inspection of the Work without impacting the project schedule.
- A. **UCC REQUIRED TESTING OBSERVATION AND/OR INSPECTION.** When the UCC requires any special testing to be observed, inspected and approved by the Department of Labor and Industry, each respective Prime Contractor shall be responsible to contact Labor and Industry sufficiently in advance to allow Labor and Industry to schedule such observation, inspection and approval of such testing. Each Prime Contractor is responsible for determining whether the UCC requires the Department of Labor and Industry's approval of the testing. The Work shall remain accessible and exposed for inspection by Labor and Industry.
- 6.37 **EFFECT OF TESTS.** Neither the observations of the Professional nor inspections, tests or approvals by persons other than the Contractor relieve the Contractor from its obligations to perform the work in accordance with the Contract Documents.
- 6.38 **ENVIRONMENTAL QUALITY CONTROL.** The Contractor and its Subcontractors shall perform their work in a manner, which minimizes the possibility of air, water, land and noise pollution.
- A. Each Contractor shall be responsible for all dewatering to prevent surface water and ground water from entering excavations (including foundations and drilled piers), from ponding on prepared subgrades and from flooding the Project site and surrounding areas.

- B. Each Contractor shall be responsible to protect subgrades from softening, undermining, washout, and damage by rain or water accumulation. Each Contractor shall reroute surface water runoff away from excavated areas. No Contractor shall allow water to accumulate in excavations. No Contractor shall use excavated trenches as temporary drainage ditches.
- C. Each Contractor shall be responsible for installing a dewatering system to keep subgrades dry and convey ground water away from excavations. Each Contractor shall maintain the dewatering system until dewatering is no longer required.
- 6.39 **SOLID WASTE.** Storage, collection, transportation and final disposal of solid waste shall be in accordance with the Solid Waste Management Act regulations and standards of the Department of Environmental Protection (**DEP**). Immediately upon the effective date of the contract, the Contractor shall begin to obtain, at its cost, the necessary permit(s) from DEP and conduct waste disposal on site approved under this permit. A copy of this permit must be submitted to the Department before commencing waste disposal. A record of receipt of the waste material that is signed by the waste company certified to receive the waste material acknowledging receipt and proper disposal must be provided to the Department.
- 6.40 **COMPLIANCE WITH STATUTES & REGULATIONS ADMINISTERED BY DEP.** The Contractor shall comply with all statutes and regulations of the Commonwealth of Pennsylvania concerning environmental quality control administered by DEP. These statutes and regulations include those listed in the Environmental Statement set forth in the Instructions to Bidders (which is included as part of the Contract Documents) and, but not limited to, the Clean Streams Law, the Clean Water Act, Pennsylvania Sewage Facilities Act, Air Pollution Control Act, Surface Mining Conservation and Reclamation Act, Bituminous Coal Open Pit Mining Conservation Act, Dams and Encroachments Act, Water Well Driller's Act, Water Works Act and Atomic Energy Act, all as amended to date. The Contractor is responsible for any violations and shall secure all required permits. Erosion control measures are shown on drawings and specifications and/or specified in the General Requirements. An erosion control permit, if required, will be obtained by the Professional.
- 6.41 **BURNING OF MATERIALS.** Burning of materials from clearing and grubbing operations, periodic and final clean-up, and all related construction, shall be governed by local codes and ordinances and/or DEP regulations. For each day that the Contractor may contemplate open burning, it shall secure written approval from DEP. Failure to secure permission for open burning will require the Contractor to remove material from the project site and dispose of it in a manner acceptable to DEP.
- 6.42 **SUSPENSION FROM METAL ROOF DECKS – NEW AND EXISTING.** Ductwork, conduit, ceiling systems, lighting fixtures or any other miscellaneous equipment shall not be suspended from metal roof decks. These components shall only be suspended from the structural members or a suspension system supported by the structural members. All concentrated loads must be submitted for review by the Professional. If the concentrated loads are not approved, the Prime Contractor furnishing the equipment must provide an acceptable means of distributing the load.
- 6.43 **ASPHALT OR TAR KETTLES.** Asphalt or tar kettles shall not be used inside of or on the roof of any building. Fired kettles shall not be left unattended. There shall be at least one portable fire extinguisher with a minimum 20 B: C rating within thirty feet of each fired kettle and one additional portable fire extinguisher with the same rating by the work area.

- 6.44 **INSULATION.** All insulation incorporated into the project **must** contain the minimum percentage of post-consumer recovered paper or recovered material as shown below for the applicable product:

<u>MATERIAL TYPE</u>	<u>PERCENT BY WEIGHT</u>
Cellulose loose – fill and spray on	75% post-consumer recovered paper
Perlite Composite Board	23% post-consumer recovered paper
Plastic rigid foam, polyisocyanurate/polyurethane	
Rigid Foam	9% recovered material
Foam-in-Place	5% recovered material
Glass Rigid Foam	6% recovered material
Phenolic Rigid Foam	5% recovered material
Rock Wool	50% recovered material

- 6.45 **ENFORCEMENT OF INSULATION REQUIREMENT.** The Contractor may be required to provide the Commonwealth with documentary evidence that the insulation provided for the Project was produced with the required minimum percentage of post-consumer recovered paper or recovered material.

6.46 **LANDSCAPING PRODUCTS RECYCLED CONTENT.**

- A. **REQUIREMENT:** All landscaping products offered by the Contractor or included in the final product and sold to the Commonwealth **MUST** contain the minimum percentage of post-consumer and recovered material content as shown below for the applicable products:

<u>LANDSCAPING PRODUCTS</u>	<u>RECOVERED MATERIAL CONTENT</u>
Hydraulic Mulch: Paper Wood/Paper	100% (post-consumer) 100% (total)
Compost Made From Yard Trimmings and/or Food Waste	Purchase or use compost made from yard trimmings, leaves, grass clippings and/or food wastes for applications such as landscaping, seeding of grass or other plants, as nutritious mulch under trees and shrubs, and in soil erosion control and soil reclamation. DGS further recommends implementing a composting system for these materials when agencies have an adequate volume and sufficient space.
Garden Hose: Rubber and/or Plastic	60% (post-consumer)
SOAKER HOSE Rubber and/or Plastic	60% (post-consumer)
Lawn and Garden Edging: Rubber and/or Plastic	30% (post-consumer)/30-100% total

LANDSCAPING PRODUCTS	RECOVERED MATERIAL CONTENT
Landscaping Timber and Posts: HDPE Mixed Plastics/Sawdust HDPE/Fiberglass Other Mixed Resins	25% (post-consumer)+50% (recovered) 50% (post-consumer)+50% (recovered) 75% (post-consumer)+20% (recovered) 50% (post-consumer)+45% (recovered)

- B. "POST-CONSUMER" MATERIAL: "Material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. Post-consumer material is part of the broader category of recovered material."
- C. "RECOVERED MATERIAL": Refers to waste materials and by-products which have been recovered or diverted from solid waste, but does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.
- D. CONTRACTOR'S CERTIFICATION: Contractor certifies that the landscaping product(s) which the Contractor is offering contains the required minimum percentage of post-consumer and recovered material content as shown in the above chart for the product.
- E. MANUFACTURER'S CERTIFICATION: In addition to the Contractor's Certification, a Manufacturer's Certification must be completed and signed by the manufacturer before payment will be made to the Contractor for the delivered items. A Manufacturer's Certification form identical to the form shown below must be used. Contractors are not required to submit the completed and signed Manufacturer's Certification form with their bid or proposal. **The Commonwealth shall have not obligation to pay for the item(s) until a properly completed and signed manufacturer's certification is submitted for the delivered item.**
- F. ENFORCEMENT: The Contractor may be required, after delivery of the landscaping product(s), to provide the Commonwealth with documentary evidence that the landscaping product(s) were in fact produced with the required minimum percentage of post-consumer and recovered material content.

MANUFACTURER CERTIFICATION

(To be submitted with invoice for each order)

TO BE COMPLETED BY MANUFACTURER:

NAME OF MANUFACTURER: _____

ADDRESS OF MANUFACTURER: _____

FEDERAL EMPLOYER I.D. NO.: _____

CONTRACT OR REQUISITION NO. _____

NAME OF CONTRACTOR: _____

ADDRESS OF CONTRACTOR: _____

Type of landscaping product(s) which the manufacturer furnished to the contractor: _____

CERTIFICATION: I, the undersigned officer of the above-named manufacturer, do hereby certify that I am authorized to provide this certification on behalf of the above-named manufacturer and that the type of construction product(s) listed above which my company furnished to the contractor named above for the referenced contract or purchase requisition, contained not less than _____% post-consumer materials and _____% recovered materials as those terms are defined in the invitation for bids. I understand that this document is subject to the provisions of the Unsworn Falsification of Authorities Act (18 P.S. Section 4904).

Signature

Name of Signatory

TITLE

DATE

6.47 **CONSTRUCTION PRODUCTS RECYCLED CONTENT.**

- A. **REQUIREMENT:** All construction products offered by the Contractor, or included in the final product offered by the Contractor and sold to the Commonwealth **must** contain the minimum percentage of postconsumer and recovered material content as shown in the chart below for the applicable products.
- B. **POST-CONSUMER” MATERIAL:** “Material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. Post-consumer material is part of the broader category of recovered material.”
- C. **RECOVERED MATERIAL:** Refers to waste materials and by-products which have been recovered or diverted from solid waste, but does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.
- D. **CONTRACTOR’S CERTIFICATION:** Contractor certifies that the construction product(s), which the Contractor is offering, contains the required minimum percentage of postconsumer and recovered material content as shown above for the product.
- E. **MANUFACTURER’S CERTIFICATION:** In addition to the Contractor’s Certification, a Manufacturer’s Certification must be completed and signed by the manufacturer before payment will be made to the Contractor for the delivered items. A Manufacturer’s Certification form identical to the form shown below must be used. The Contractor is not required to submit the completed and signed Manufacturer Certification form with their proposal. **The Commonwealth shall have not obligation to pay for the item(s) until a properly completed and signed manufacturer’s certification is submitted for the delivered item.**
- F. **ENFORCEMENT:** The Contractor may be required, after delivery of the construction product(s), to provide the Commonwealth with documentary evidence that the construction product(s) were in fact produced with the required minimum percentage of post-consumer and recovered material content.

Construction Products	MATERIAL	% of Post-Consumer Materials	% of Total Recovered Materials
Structural Fiberboard	Recovered Materials	-	80
Laminated Paperboard	Post-consumer Paper	100	-
Rock Wool Insulation	Slag	-	75
Fiberglass Insulation	Glass Cullet	-	20
Cellulose Insulation (loose-fill and spray-on)	Post-consumer Paper	75	-
Perlite Composite Board Insulation	Post-consumer Paper	23	-
Plastic Rigid Foam, Polyisocyanurate/ Polyurethane: Rigid Foam Insulation	Recovered Material	-	9
Foam-in-Place Insulation	Recovered Material	-	5
Glass Fiber Reinforced Insulation	Recovered Material	-	6
Phenolic Rigid Foam Insulation	Recovered Material	-	5
Floor Tiles (heavy duty/commercial use)	Rubber Plastic	90 -	- 90
Patio Blocks	Rubber or Rubber Blends Plastic or Plastic Blends	90 -	- 90

Polyester Carpet Fiber Face	Polyethylene terephthalate (PET) resin	25	-
Latex Paint: --Consolidated ¹ --Reprocessed ² -----White, Off-White, Pastel Colors -----Grey, Brown, Earthtones, and Other Dark Colors	Recovered Material Recovered Material Recovered Material	100 20 50	- - -
Shower and Restroom Dividers/Partitions:	Plastic Steel ⁴	20 16 67	- 9 33
Carpet Cushion: --Bonded Polyurethane --Jute --Synthetic Fibers --Rubber	Old Carpet Cushion Burlap Carpet Fabrication Scrap Tire Rubber	15 40 - 60	- - 100 -
Railroad Grade Crossing Surfaces --Concrete --Rubber ³ --Steel ⁴	Coal Fly Ash Tire Rubber Steel	- - 16 67	15 85 9 33

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¹ Consolidated latex paint used for covering graffiti, where color and consistency of performance are not primary concerns.

² Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceiling, and trim; gutterboards; and concrete, stucco, masonry, wood, and metal surfaces.

³The recommended recovered materials content for rubber railroad grade crossing surfaces are based on the weight of the raw materials, exclusive of any additives such as binders or additives

⁴ The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured from either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is post-consumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is post-consumer.

MANUFACTURER CERTIFICATION

(To be submitted with invoice for each order)

TO BE COMPLETED BY MANUFACTURER:

NAME OF MANUFACTURER: _____

ADDRESS OF MANUFACTURER: _____

FEDERAL EMPLOYER I.D. NO.: _____

CONTRACT OR REQUISITION NO. _____

NAME OF CONTRACTOR: _____

ADDRESS OF CONTRACTOR: _____

Type of construction product(s) which the manufacturer furnished to the contractor: _____

CERTIFICATION: I, the undersigned officer of the above-named manufacturer, do hereby certify that I am authorized to provide this certification on behalf of the above-named manufacturer and that the type of construction product(s) listed above which my company furnished to the contractor named above for the referenced contract or purchase requisition, contained not less than _____% post-consumer materials and _____% recovered materials as those terms are defined in the invitation for bids. I understand that this document is subject to the provisions of the Unsworn Falsification of Authorities Act (18 P.S. Section 4904).

Signature

Name of Signatory

TITLE DATE

- 6.48 **STORAGE ENCLOSURE.** The Contractor shall provide, at its cost, a suitable, substantial and watertight storage enclosure in which it shall store all materials that might be damaged by the weather. A Mobile trailer type is acceptable. This enclosure shall be situated on site as directed by the Department. The Contractor is responsible for maintaining and removing this enclosure at its cost. All storage enclosures shall be of sufficient size to hold all the Contractor's subject materials on the site at one time and shall have floors raised at least six (6) inches above the ground on heavy joists or sleepers. Storage enclosures shall have sufficient natural ventilation to preclude condensation.
- 6.49 **NO STORAGE IN EXISTING BUILDINGS.** The Contractor shall not store any materials in any existing building or beyond the contract limits as defined by the drawings without prior written authorization from the Department.
- 6.50 **OPERATION AND MAINTENANCE INSTRUCTION MANUALS.** The Contractor shall, for its scope of work, carefully compile during the progress of the work indexed operation and maintenance manuals to include methods of care and cleaning of all types of visible surface materials, both interior and exterior, and descriptions of all systems and equipment and methods of operations thereof. Descriptions shall give pertinent diagrams, identifying charts, color coding, connections, lubricating instructions, and single line and detailed wiring diagrams, using manufacturers' printed information where possible. Where manufacturers' printed information is not available, the Contractor shall obtain written instructions prepared by subcontractors and sub-subcontractors. The Contractor shall include names, addresses and phone numbers of all subcontractors and sub-subcontractors, and of service firms of each mechanical item, for the Using Agency's use after expiration of the guarantee period. At the time of Closeout Inspection, the Contractor shall submit a rough draft of the manual in a loose-leaf binder for approval by the Professional and the Department. After approval and before final payment, Contractor shall furnish two (2) corrected, indexed, bound copies to the Professional to be turned over to the Department for issuance to the Using Agency.
- 6.51 **AS-BUILT DRAWINGS.** At the time of Closeout Inspection, the Contractor shall prepare and deliver to the Professional a complete set of contract prints, corrected with suitable markings to show all changes or variations from the original contract, including all items uncovered during the work and showing the details of the work as actually built, including but not limited to horizontal and vertical dimensional references of all concealed pipe, conduit and other lines and equipment.
- 6.52 **WARRANTY AND GUARANTEE.** The Contractor shall unconditionally warrant and guarantees equipment, materials and workmanship against patent defects arising from faulty equipment, faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the date of Closeout Inspection of the Work or beneficial occupancy (whichever comes first) unless other warranties found within the Contract Documents specify or indicate longer periods. The Contractor shall replace such defective equipment, materials or workmanship without cost to the Department. The Contractor shall warrant that such equipment, material or workmanship furnished under this Contractor shall be furnished in conformance with the Contract Documents. All work not conforming to these standards may be considered non-conforming.
- A. If items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The Contractor shall replace such defective equipment or materials, without cost to the Department, within the manufacturer's warranty period. Nothing in this paragraph relieves the Contractor or surety of its obligations under the performance bond.

- B. The Contractor shall assign and deliver to the Professional all warranties for review as part of the Operations & Maintenance submission. The Professional will transfer the warranties to the Department. The warranty provided in this Paragraph shall be in addition to, and not in limitation of, any other warranty or remedy provided by Law or by the Contract Documents.
 - C. If there is a substitution of material or equipment in accordance with the Substitution Paragraph, the Contractor warrants that such installation, construction, material or equipment will perform to the standard of the item originally specified. The Contractor explicitly warrants the merchantability, and the fitness for use and quality of all substituted items provided for or by it.
 - D. The Department may bring an action for latent defects that were hidden or not readily apparent to the Department at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.
- 6.53 **TAXES.** The Contractor shall pay all sales, consumer, use and other similar taxes required by law. The Contractor shall be familiar with and take full advantage of all sales tax exemptions allowed by the Pennsylvania Department of Revenue. The Contractor has an affirmative duty to seek a refund or reimbursement of sales tax from Department of Revenue for costs that were included in the Contract. Once those savings are received by the Contractor, they shall be transferred back to DGS through a credit change order(s). Additional information is available at: www.revenue.state.pa.us/portal/server.pt/community/revenue_home/10648 and at: www.revenue.state.pa.us/portal/server.pt/community/sales_use_tax/14702 Credit changes orders for such tax refunds or reimbursements shall be equal to the actual tax refund or reimbursement amount(s) less ten percent (10%) for administrative costs..
- 6.54 **OFFSET OF AMOUNTS DUE TO COMMONWEALTH.** The Contractor, by execution of the Contract, certifies that it has no outstanding tax liability to Pennsylvania; authorizes the Department of Revenue to release information related to its tax liability to the Department; and authorizes the Commonwealth to offset the amount of any state tax or Contractor liability owed to the Commonwealth by the Contractor or its affiliates and subsidiaries, as well as any other amount due to the Commonwealth from the Contractor not being contested on appeal by the Contractor, against any payments due the Contractor under this or any other contract with the Commonwealth. The certification of no outstanding tax liability is a material representation of fact, which the Department relies upon in entering into the Contract. If it is later determined that the Contractor knowingly rendered an erroneous certification, the Department may find the Contractor in default and terminate the Contract. Such erroneous certification may also be grounds for initiation of civil, criminal and/or debarment proceedings.
- 6.55 **NONDISCRIMINATION AND SEXUAL HARASSMENT.** During the term of the Contract, the Contractor agrees as follows:
- A. In the hiring of any employees for the manufacture of supplies, performance of work, or any other activity required under the Contract or any subcontract, the contractor, subcontractor, or any person acting on behalf of the Contractor or subcontractor, shall not by reason of gender, race, creed, or color discriminate against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.

- B. Neither Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate against or intimidate any employee involved in the manufacture of supplies, the performance of work, or any other activity required under this Contract on account of gender, race, creed, or color.
- C. Contractor and any subcontractors shall establish and maintain a written sexual harassment policy and shall inform their employees of the policy. The policy must contain a notice that sexual harassment will not be tolerated and employees who practice it will be disciplined.
- D. Contractor shall not discriminate by reason of gender, race, creed, or color against any subcontractor or supplier who is qualified to perform the Work to which the contract relates.
- E. Contractor and each subcontractor shall, within the time periods requested by the Commonwealth, furnish all necessary employment documents and records and permit access to their books, records, and accounts by the contracting agency and the Bureau of Small Business Opportunities (BSBO), for purpose of ascertaining compliance with provisions of this Nondiscrimination/Sexual Harassment Clause. Within fifteen (15) days after award of any contract, the Contractor shall be required to complete, sign and submit Form STD-21, the "Initial Contract Compliance Data" form. If the contract is a construction contract, then the Contractor shall be required to complete, sign and submit Form STD-28, the "Monthly Contract Compliance Report for Construction Contractors", each month no later than the 15th of the month following the reporting period beginning with the initial job conference and continuing through the completion of the project. Those contractors who have fewer than five employees or whose employees are all from the same family or who have completed the Form STD-21 within the past 12 months may, within the 15 days, request an exemption from the Form STD-21 submission requirement from the contracting agency.
- F. Contractor shall include the provisions of this Nondiscrimination/Sexual Harassment Clause in every subcontract so that such provisions will be binding upon each subcontractor.
- G. The Commonwealth may cancel or terminate this Contract, and all money due or to become due under this Contract may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the Department may proceed with debarment or suspension and may place Contractor in the Contractor Responsibility File.

6.56 **CONTRACTOR EVALUATIONS**

- A. The Contractor, by entering the Construction Contract, consents to the evaluation of its performance by the Department and/or the Department's designee and understands that any such evaluation may be used in future procurements to determine Contractor's responsibility. The Department and/or the Department's designee shall provide the Contractor with written notice of any unsatisfactory evaluations and the reasons therefore. Contractor shall be entitled to submit a reply.

ARTICLE 7: SUBCONTRACTORS/SUPPLIERS

- 7.1 **CONTRACTOR'S INTEREST IN SUBCONTRACTOR/SUPPLIER.** Pursuant to the Contractor Integrity Provisions set forth in the Instructions to Bidders, a Contractor may not, except with the consent of the Commonwealth, have a financial interest in any other Contractor, Subcontractor, or Supplier providing services, labor, or material on this project. The Contractor is required to disclose the names of all Subcontractors and/or Suppliers in which the Contractor has a financial interest, and which will be utilized in the Project. This information must be disclosed either with the bid (if known prior to bid opening) or on Form GSC-23, Request for Approval of Materials and/or Subcontractors. If the Department has any objection to the proposed Subcontractors and/or Suppliers listed on the GSC-23, the Contractor shall promptly propose another Subcontract and/or Supplier to whom the Department does not have an objection. The Department's acceptance of the Subcontractors and/or Suppliers will be deemed to be consent for the purposes of the Contractor Integrity Provisions. Failure to disclose the names of such Subcontractors and/or Suppliers for which the Contractor has a financial interest is a violation of the Contractor Integrity Provisions. For violation of any of these Contractor Integrity Provisions, the Commonwealth may terminate this and any other contract with Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of these provisions, claim damages for all additional costs and expenses incurred in obtaining another contractor to complete performance under this contract, and debar and suspend Contractor from doing business with the Commonwealth. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those the Commonwealth may have under law, statute, regulation, or otherwise. The Contractor shall not replace any Subcontractor and/or Supplier previously selected and/or approved by the Department, without prior written notification to the Department and receipt of the Department's written approval for such substitution.
- 7.2 **SUBCONTRACTOR/SUPPLIER RESPONSIBILITY.** If the Contractor enters into any subcontracts or purchase orders under this Contract with Subcontractors or Suppliers currently suspended or debarred by the Commonwealth, or who become suspended or debarred by the Commonwealth during the term of this Contract or any extensions or renewals of it, the Department may require the Contractor to terminate such Contract.
- 7.3 **CONTRACTOR RESPONSIBILITY FOR ACTIONS AND COMPLIANCE.** The Contractor shall be responsible for all acts of its Subcontractors and Suppliers utilized under this Contract, and for their compliance with all terms and provisions of the Contract applicable to their performance. The Contractor shall continuously coordinate the Work of all Subcontractors to assure proper processing and progress of the Work.
- A. The Contractor shall require each Subcontractor to comply with the following:
1. Examine the shop drawings and the Work of other Prime Contractors and all sections of the specifications to the extent necessary for satisfactory installation of its Work, and connection between its Work and the Work of other Prime Contractors; and
 2. Coordinate its Work accordingly; and
 3. Cooperate with other Contractors and Subcontractors toward timely and satisfactory completion of the Project.
- B. The failure of any Subcontractor to complete its portion of the Work in a satisfactory manner within the proper time will not relieve the Contractor of responsibility for the proper and satisfactory execution and completion of the entire Work.

7.4 **ACTS AND OMISSIONS OF SUBCONTRACTORS.** The Contractor acknowledges its full responsibility to the Department for the actions, inactions, and omissions of its Subcontractors, and of the persons and firms either directly or indirectly employed by them, equally to the extent that the Contractor is responsible for the actions, inactions, and omissions of persons and firms directly or indirectly employed by it. The Contractor acknowledges that it remains fully responsible for the proper performance of its Contract whether work is performed by the Contractor's own forces or by Subcontractors engaged by the Contractor.

7.5 **SUBCONTRACTS AND PURCHASE ORDERS.**

A. **DEFINITIONS:**

1. **Manufacturer** – Defined in Article 1 of these General Conditions.
2. **Subcontractor** - Defined in Article 1 of these General Conditions
3. **Supplier** – Defined in Article 1 of these General Conditions.

B. **SUBCONTRACTORS:**

1. On Small Business Projects, the Small Business Contractor shall only subcontract with Small Business contractors unless otherwise authorized by the Department. Small Business subcontractors shall perform 100% of their subcontract.
2. All Work performed for the Contractor by a Subcontractor shall be done pursuant to a written subcontract between the Contractor and the Subcontractor.
3. The form of the written subcontract must be the same for all Subcontractors.
4. All subcontracts between the Contractor and each Subcontractor **must:**
 - a. Be signed by both parties;
 - b. Contain Provisions that:
 - i. Set forth the amount the Subcontractor is to be paid; and
 - ii. Describe the scope of Work to be performed by the Subcontractor; and
 - iii. Preserve and protect the rights of the Department and the Professional under the Contract with respect to the Work to be performed under the Subcontract, so that the subcontracting thereof will not prejudice such rights; and
 - iv. Require that such Work be performed in accordance with the requirements of the Contract Documents; and
 - v. Require submission to the Contractor of applications for payment under each Subcontract to which the Contractor is party, in reasonable time to enable the Contractor to apply for payment in accordance with the provisions of the Prompt Payment Schedule (62 Pa. C. S. §3901 *et seq.*) and the provisions of these General Conditions governing payment by the Department; and
 - vi. Require that all claims for additional costs, extensions of time or otherwise with respect to subcontracted portions of the Work shall be submitted to the Contractor in the manner provided in the Contract Documents for like claims by the Contractor upon the Department; and

vii. Prior to commencing onsite or offsite work, require each Subcontractor to comply with the provisions of the Public Works Employment Verification Act (43 P.S. §§ 167.1 – 167.11), which requires subcontractors to utilize the Federal E-Verify program to verify the employment eligibility for every new employee hired after January 1, 2013 and to submit to the Department a Commonwealth Public Works Verification Form available on the Department's web site at www.dgs.state.pa.gov.

viii. Require each Subcontractor to include provisions in each of its subcontracts regarding the applicability of the Public Works Employment Verification Act (43 P.S. §§ 167.1 – 167.11), information regarding the use of the Federal E-Verify program, and reference to the Department's web site to obtain a downloadable copy of the Commonwealth Public Works Employment Verification Form required to be submitted to the Department.

ix. Require acknowledgement by the Subcontractor that the Subcontractor is without privity of Contract with the Department and that the Subcontractor agrees by signing the Subcontract that it neither acquires or intends to acquire any rights against the Department on a third party beneficiary theory or any other theory; and

x. Require each Subcontractor to notify its Subcontractors, in writing, that their rights of recovery against the bond of the Contractor for failure of payment may not be exercised unless the Contractor is notified of the claim within ninety (90) days from the last performance of labor or provision of materials and/or equipment; and

xi. Obligate each Subcontractor to specifically consent to all provisions of this Article of the General Conditions of the Contract; and

xii. Contain the following certification language:

1. **Certification:** I, the undersigned officer of the Prime Contractor, do certify that, to the best of my knowledge, this subcontract complies with the provisions of the Subcontractor Article of the General Conditions of the Contract with the Department of General Services. I understand that by signing this document I certify that this document is subject to the provisions of the Unsworn Falsifications to Authorities (18 P.S. §4904). I acknowledge that if my company does not comply with the terms of the Subcontractor Article my firm may be subject to suspension for a period up to three (3) months and/or debarment from bidding on any Commonwealth of Pennsylvania Public Works Projects for a period of three (3) years.

xiii. The Contractor agrees that failure to incorporate these terms in its Subcontracts is a material breach of the terms of the Contract Documents. The Contractor will have five (5) days, as required by the Administrative Procedures, to provide proof in writing that such a deficiency in its subcontract documents has been remedied. Failure to provide written proof within five (5) days shall constitute grounds for default of the Contractor by the Department.

5. The Contractor shall submit two (2) copies of all subcontracts for Work to be performed on the Project to the DGS Construction Inspector Supervisor for the Project **prior to the commencement of any Work by the Subcontractor.**

6. On non-Small Business project, the Contractor shall also submit a copy of every subcontract with a Small Diverse Business to the Department's Bureau of Small Business Opportunities.
7. The Contractor shall identify the work to be subcontracted on a separate line item on the Contract Breakdown Sheet, GSC-30, as described more completely in the Administrative Procedures.

C. MANUFACTURERS AND SUPPLIERS:

1. Manufacturers and Suppliers do not have to sign Purchase Orders.
2. The Contractor shall submit one (1) certification letter, on the Contractor's letterhead, with language identical to that set forth in the sample letter included as part of the Administrative Procedures governing Material and Subcontractor approvals. This one (1) letter, which shall apply to all purchase orders, shall certify the Contractor's compliance with the terms set forth in the letter. The language required by the Administrative Procedures to be included in the letter shall not be altered in any way.
3. The Contractor shall submit this certification letter to the DGS Construction Inspection Supervisor for the Project **prior to the delivery of any material and/or equipment by any Manufacturer or Supplier.**
4. For every purchase order with a Small Diverse Business Supplier and Small Diverse Business Manufacturer, the Contractor shall submit a copy of the purchase order to the Department's Bureau of Small Business Opportunities. The purchase order for a Nonstocking Supplier must include the fee or commission paid to the Nonstocking Supplier.
5. On non-Small Business projects, the Contractor shall identify all material and/or equipment that will be supplied by a Small Diverse Business Supplier or a Small Diverse Business Manufacturer on a separate line item (per Supplier/Manufacturer, not per material and/or equipment) on the Contract Breakdown Sheet, GSC-30.

7.6 **No CONTRACTUAL RELATIONSHIP BETWEEN DEPARTMENT AND SUBCONTRACTOR.** Nothing contained in the Contract Documents creates any contractual relationship between the Department and any Subcontractor, Sub-Subcontractor or any of its authorized representatives. Nothing contained in the Contract Documents creates any contractual relation between the Professional and any Subcontractor, Sub-Subcontractor or any of its authorized representatives.. Nothing contained in the Contract Documents creates any contractual relation between the Construction Manager (if there is one on the Project) and any Subcontractor, Sub-Subcontractor or any of its authorized representatives.. The Contractor is not an intended third party beneficiary of the Professional Contract or the Construction Manager's Contract. Nothing in the Contract Documents between the Department and the Contractor should be construed to authorize any person not a party to the Standard Form of Contract, the Professional Contract or Construction Manager's Contract to maintain any lawsuit involving that contract, unless otherwise provided by law.

7.7 **No CONTRACTUAL RELATIONSHIP BETWEEN DEPARTMENT AND SUPPLIER OR MANUFACTURER.** Nothing contained in the Contract Documents creates any contractual relationship between the Department and any Supplier/Manufacturer or its authorized representatives. Nothing contained in the Contract Documents creates any contractual relation between the Professional and any supplier/manufacturer or its authorized representatives. Nothing contained in the Contract Documents creates any contractual relation between the Construction Manager (if there is one on the Project) and any supplier/manufacturer. The supplier/manufacturer is not an intended third party

beneficiary of the Professional Contract or the Construction Manager's Contract. Nothing in the Contract Documents between the Department and the Contractor should be construed to authorize any person not a party to the Standard Form of Contract, the Professional Contract or Construction Manager's Contract to maintain any lawsuit involving that contract, unless otherwise provided by law.

- 7.8 **PAYMENT OF SUBCONTRACTOR BY CONTRACTOR GOVERNED BY PROMPT PAYMENT SCHEDULE.** Payments to the Subcontractor are subject to the provisions of the Commonwealth Procurement Code (62 Pa. C. S. §3931 *et seq.*) also known as the "Prompt Payment Schedule". The general description set forth in the General Conditions does not relieve the Contractor from strict compliance with the requirements of the Prompt Payment Schedule. Nothing described in these General Conditions is intended to impose a duty greater than that imposed by the Prompt Payment Schedule. In the event of any discrepancy between this language and the language of the Schedule, the Schedule controls.
- 7.9 **FAILURE OF DEPARTMENT TO MAKE PROGRESS PAYMENT.** If the Department fails to pay some or all of an approved Application for Payment for any cause which is the fault of the Contractor and not the fault of a particular Subcontractor, the Contractor shall pay that Subcontractor, upon demand made by the Subcontractor at any time after the approved Application for Payment should otherwise have been issued, for its Work to the extent completed, less the retained percentage.
- 7.10 **INSURANCE RECEIPTS.** The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor under the Insurance Article of these General Conditions of the Contract.
- 7.11 **PERCENTAGE OF COMPLETION.** The Department may, on request, furnish to any Subcontractor, if practicable, information regarding percentages of completion certified to the Contractor on account of work done by such Subcontractor.
- 7.12 **NO OBLIGATION ON PART OF DEPARTMENT TO PAY SUBCONTRACTOR, SUPPLIER, OR MANUFACTURER.** Subcontractor, Supplier, or Manufacturer issues concerning delayed and non-payment should be addressed to the Contractor and the Contractor's payment bond surety. The Department shall have no obligation to pay or to ensure the payment of any moneys to any Subcontractor, Supplier, or Manufacturer except as may otherwise be required by law. Subcontractors, Suppliers, and Manufacturer acknowledge they have no direct cause of action (unless otherwise provided by law) against the Professional, the Construction Manager (if there is one on the Project) or the Department relating to any payment issues.
- 7.13 **SUBCONTRACTOR AND SUPPLIER CLAIMS.** The Contractor agrees to require the Subcontractor and/or Supplier to submit all claims for extras, extensions of time or for damages to the Contractor in the manner provided in the Contract Documents for claims by the Contractor against the Department in accordance with the Disputes Article of these General Conditions. Since neither Subcontractors nor Suppliers have privity of contract with the Department, they may not pursue a claim directly against the Department.

ARTICLE 8: PROJECT SCHEDULE

- 8.1 **DEPARTMENT RESERVATION OF RIGHTS.** The Department reserves the right to accept the Project Schedule developed, signed and submitted by the Contractors, while preserving exceptions to any defects in the means, methods, sequences, durations and/or logic which the Department believes exist in the schedule. The acceptance of the updated Project Schedule by the Department in no way relieves the Prime Contractors from their duty to coordinate amongst themselves and shall not make the Department, its designee or the Professional a guarantor of the Project Schedule.

Upon request, the Lead Contractor shall provide to DGS all the planning data used to develop the Project Schedule. This planning data shall include, but is not limited to:

1. Job Sequences;
2. Activity Logic;
3. Man loading;
4. Crew sizes;
5. Number of shifts planned per working day;
6. Number of crews per shift; and
7. Equipment loading.

- 8.2 **TIME OF THE ESSENCE.** All time limits stated in the Contract Documents are of the essence. The Contractor shall perform the Work expeditiously with adequate forces using all calendar days to complete the Work no later than the Contract Completion Date.

- 8.3 **IF LETTER OF INTENT ISSUED.** If the Department elects to issue a Letter of Intent pursuant to §906 of the Commonwealth Procurement Code, the Letter will list and describe the Work that can commence prior to the Effective Date of Contract.

- 8.4 **COMMENCEMENT OF OFF-SITE WORK IF LETTER OF INTENT NOT ISSUED.** If the Department does not issue a Letter of Intent, the date of commencement of Off-Site Work is the Effective Date of Contract.

- 8.5 **INITIAL JOB CONFERENCE.** The Initial Job Conference will be held within thirty (30) calendar days from the Effective Date of Contract.

- 8.6 **COMMENCEMENT OF ON-SITE WORK.** On-site work will commence within ten (10) calendar days after the Initial Job Conference.

The following paragraphs (8.7 through 8.16) only apply to Project where the Department requires a CPM Schedule

- 8.7 **PROJECT SCHEDULE PREPARATION.**

- A. **CPM:** Unless directed otherwise by the Department, the project management tool commonly called the Critical Path Method (CPM) scheduling system will be used on this Project for planning, scheduling implementation and reporting of all Work to be performed under this Contract, including all activities of Subcontractors, equipment vendors and Suppliers. Unless directed otherwise by the Department, the precedence diagramming method shall be used in preparing the Project Schedule and all related network diagrams. Primavera Project Planner version 5.0 (or later

versions) shall be used by all Prime Contractors to maintain the Project Schedule, unless all Contractors agree upon and request the Department's permission to utilize alternate software. The Project Schedule network plan, including all appropriate milestone dates and the computer-produced reports shall be part of the Contract Documents. The following outline is provided to indicate to all Contractors the scope of the scheduling work and the responsibility of all Contractors to comply with this method. The CPM Schedule shall be developed, prepared, and submitted in accordance with this paragraph and the requirements of the Scheduling Administrative Procedure. **No Contractor shall assert any claim whatsoever for any delay or additional cost incurred in connection with the development of the CPM Schedule.**

- B. SCOPE: The CPM will be used to establish and control the Project Schedule. This system will be implemented by the Lead Contractor using the services of a qualified Subcontractor or the Lead Contractor's own in-house staff. The CPM scheduler must demonstrate to the Department that it has the capability of performing the CPM Scheduling required on the Project by submitting (no later than the Initial Job Conference) a written description of:
1. the scheduler's CPM scheduling system, which must be recognized in the industry as adequate for CPM Scheduling of a project of this size; and
 2. the scheduler's experience over the previous five (5) years with projects of this size and nature.
- C. COOPERATION OF CONTRACTORS: To the extent necessary for the Lead Contractor to reflect the Contractors' proposed plan for completion of its Work in a computerized CPM Project Schedule network diagram, the Contractors shall meet with and assist the Lead Contractor and furnish information as directed in a Letter of Intent or otherwise directed subsequent to award of Contract. All Work shall be done in accordance with accepted CPM planning and scheduling methods and it shall be the responsibility of all Contractors to cooperate fully with the Lead Contractor and with each other to create and update the CPM schedule as required. The Project Schedule, including all updates, will reflect the decisions of all Contractors as to sequences, durations, construction logic, and all means and methods of construction. Each Contractor must provide persons of sufficient skill and information of sufficient detail to enable the Lead Contractor to prepare and update the CPM Schedule. The Contractors are required to allocate to home office and field office costs sufficient financial resources to enable the Contractor to fulfill their responsibilities for coordinating and cooperating in the creation and maintenance of the CPM Schedule.
- D. DUE DATES: Each Contractor expressly acknowledges the duty to cooperate fully with these scheduling requirements.
1. If the Department issued a Letter of Intent authorizing the Contractors to commence scheduling activities, the Contractors shall commence scheduling within the scope as instructed in the Letter.
 2. If the Department did not issue a Letter of Intent, the Lead Contractor on the Project shall, within seven (7) calendar days of the Effective Date of Contract, furnish each separate Contractor a draft schedule of the proposed prosecution of the work under that Contractor's Contract. The Lead Contractor shall prepare and submit to the Professional and the Department within thirty (30) calendar days of the Effective Date of Contract, the completely integrated Project Schedule in CPM format, signed by all Contractors, indicating their approval, and showing in detail, to the acceptance of the Department, the proposed coordinated dates for the performance of each part of the Work under each

Contract on the Project. The submission of the Project Schedule, and all subsequent updates, shall be done by hard copy (including all requested sorts and arrangements; utilizing color print), and in electronic format (computer disk or file) containing all data files in the Primavera scheduling system used to develop the schedule. This schedule shall begin with the Initial Job Conference and end with the Contract Completion Date.

3. **The Department will only review and pay (if the application is otherwise acceptable) the Contractor's Application for Payment #1 without an integrated Progress Schedule being submitted and accepted by the Department. If there is no Project Schedule submitted and accepted after Application for Payment #1, the Department will withhold payments from every Contractor until such time as there is an accepted Project Schedule.**
- E. PRELIMINARY PROJECT SCHEDULE: The CPM Project Schedule will be developed by the Lead Contractor in the form of a CPM arrow network or CPM precedence diagram from the information provided by the Contractors.
1. Unless a Letter of Intent was issued directing otherwise, within seven (7) calendar days of the Effective Date of Contract, the Lead Contractor shall furnish each Contractor a draft progress schedule of the proposed prosecution of the Work under that Contractor's Contract.
 2. Within seven (7) calendar days of receipt of the Lead Contractor's draft progress schedule, each separate Contractor shall submit to the Lead Contractor a schedule of the proposed prosecution of its Work, which the Contractor has integrated with the Lead Contractor's Work. The information provided by the Contractors to the Lead Contractor shall include all proposed sequences of operation, time estimates to complete operations, man loading, data from subcontractors, material supplies, and vendors required for the preparation of the Project Schedule. Each Contractor shall cooperate with the Lead Contractor to aid in the preparation of the draft Project Schedule. The Lead Contractor may conduct a meeting with each of the other Contractors to discuss details and inclusion of all other Work in the draft Project Schedule.
 3. Seasonal weather conditions shall be considered by the Contractors in the planning and scheduling of all Work influenced by high or low ambient temperatures to insure the completion of all Contract Work within the allotted Contract Time and milestone completion dates.
 4. The accepted Project Schedule must meet the specified Project duration as indicated on the Notice to Contractors.
 5. The accepted Project Schedule shall consider and include all time durations associated with UCC Inspection criteria by the PA Department of Labor and Industry, along with all other testing and inspections required by contract. It must take into account the advance notice needed for L&I Inspectors as defined by the UCC Building Permit criteria.
- F. MILESTONES:
1. The Project Schedule shall identify Construction Progress Milestones for the Project. A Milestone is to signify the start and/or completion date of a specific activity that is significant to completing the Project on schedule. The Lead Contractor is to fully consider the sequence of operations, time estimates and other scheduling influences of all the Contractors when establishing the Milestones. By signing off on the Progress Schedule, the Contractors are also agreeing to the Milestones set forth on the schedule. Any and all milestones that are not completed on schedule will require a Recovery Plan from the Contractors.

2. Selected Milestones shall be taken from activities that are found within the Critical Path of the Project Schedule.
 3. **Failure to provide full cooperation in the preparation of the CPM Schedule and any Updated Schedules will be sufficient reason for declaring the Contractor in default.**
- G. SCHEDULING INFORMATION: The following information/data for the Project Schedule will be submitted to the Lead Contractor. The information to be supplied by each Prime Contractor to the Lead Contractor shall include, but is not limited to:
1. The Prime Contractor's means and methods of construction; and
 2. Job sequences; and
 3. Activity durations in calendar days (excluding material deliveries and approval of shop drawings);
 - a. one (1) calendar day shall be the minimum duration.
 - b. thirty (30) calendar days shall be the maximum duration.
 - c. upon written request from the Lead Contractor and written approval of the Department, the maximum duration may be extended beyond 30 calendar days.
 4. Construction activities for display of all salient features of the Work of each Contractor, including but not limited to:
 - a. placing of orders for materials; and
 - b. submission of shop drawings for approval; and
 - c. approval of shop drawings; and
 - d. delivery of material; and
 - e. all work activities to be performed by each Contractor; and
 - f. priority submittal schedule.
- H. FORMATION OF FINAL PROJECT SCHEDULE: Once the Project Schedule information has been compiled, the Lead Contractor will generate a fully integrated Project Schedule for the Project in draft form. If the completion date indicated on the schedule exceeds the Contract Completion Date or if there appears to be a defect in the construction sequences, duration, or logic, the information used to develop the arrow network diagram or precedence diagram will be reviewed by the Lead Contractor and all other Prime Contractors. After discussion and revisions of the information and data, the Lead Contractor will utilize this revised data to produce a revised fully integrated Project Schedule. The procedure will be repeated as necessary to obtain a final Project Schedule that meets the Contract Completion Date as set forth in the Contract documents. This final Project Schedule is to be submitted to the Department within 30 days of the Effective Date of the contract or sooner if required by a Letter of Intent. The hard copy of the completed final Project Schedule will show:
1. Activity identification;
 2. Activity description;
 3. Activity percentage completed;
 4. Calendar dates for early start of each activity;
 5. Calendar dates for early finish of each activity;

6. Calendar dates for late start of each activity;
7. Calendar dates for late finish of each activity;
8. Individual activity float;
9. Activities critical to completion (i.e., identify all items on the critical path) of the project on schedule;
10. Milestones; and
11. That the Schedule is within the contract completion duration.

All Prime Contractors will sign the Project Schedule and each update to the schedule. A Contractor's signature constitutes approval of the Schedule. The Lead Contractor will distribute the signed Project Schedule to all Prime Contractors, the Professional, and submit the same to the DGS Regional Office for review.

- 8.8 **WORK DURING FORMATION OF PROJECT SCHEDULE.** Until the final Project Schedule is signed by all Prime Contractors and accepted by the Department, each Prime Contractor must proceed with the Work utilizing all the information available to them, including but not limited to coordination meetings with other Prime Contractors, attendance at Job Conferences, two week look ahead activities, weekly superintendent's meetings, draft CPM schedules used in the development of the final Project Schedule, and any other means necessary to maintain work progress until such time as the Project Schedule is complete and accepted. As such, no Contractor shall assert any claim whatsoever for any delay or additional cost incurred with the development of the Project Schedule.
- 8.9 **THE DEPARTMENT SHALL OWN THE FLOAT.** No float shall be used by the Contractor without written directive from the Department. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the Project Schedule. Extensions of time to interim milestone dates or the Contract Completion Date under this Contract will be granted only to the extent that equitable time adjustments to the activity or activities affected by the Contract Modification or delay exceeds the total float of the affected or subsequent paths and extends any interim milestone date or the Contract Completion Date. Such determination shall be made at the sole discretion of the Department.
- 8.10 **SCHEDULING DISPUTES:** The Lead Contractor and other Prime Contractors are responsible for coordination of the Work. Disputes between the Lead Contractor and one (1) or more other Prime Contractors or disputes between two (2) or more Prime Contractors pertaining to the creation of the Project Schedule, Schedule Updates or any Recovery Schedule, the furnishing of additional resources to meet the project schedule and/or the administration of the construction shall be submitted promptly to DGS for a decision. The decision of the Department will be observed, accepted, and fully followed by all Prime Contractors and their subcontractors on the Project, subject only to the commencement of a dispute or arbitration proceeding pursuant to Disputes Article of these General Conditions. The progress of the Work, as determined by the decision, shall not be delayed while awaiting the outcome of any such dispute proceeding.
- 8.11 **MAINTAINING THE PROJECT SCHEDULE.**
- A. Each Prime Contractor shall ensure that such manpower, materials, facilities, and equipment is applied to the Work, and shall work such hours as approved, including night shifts, overtime operations, Sundays, and holidays, as may be necessary, to maintain its progress in accordance with the Project Schedule so that no delays are caused to other Prime Contractors engaged in the Project and to insure the progress and completion of the Work within the time allowed by the Contract and as permitted by the Department.

- B. If any Prime Contractor fails to maintain progress according to the schedule or causes delay to another Prime Contractor, the delaying Prime Contractor shall furnish such additional manpower, equipment, additional shifts or other measures that are necessary, or as the Lead Contractor directs, to bring its operations up to schedule without any additional cost or expense to the Department.
- C. If the Prime Contractor refuses or fails to keep up with the Project Schedule or fails to proceed as directed by the Department, the Department will note this refusal/failure in the Contractor Responsibility Program and will consider suspension of the Contractor in accordance with Section 531 of the Commonwealth Procurement Code. The Department may also, in its sole discretion, find the Prime Contractor in breach of its Contract and/or declare the Contractor in default of its Contract in accordance with the Termination Article of these General Conditions.

8.12 **PROJECT SCHEDULE UPDATING.** The Project Schedule will be updated and issued at least once per month by the Lead Contractor.

- A. **MANDATORY MONTHLY SCHEDULE UPDATE MEETING.** The Lead Contractor will provide, at least once per month, updates of the Project Schedule. All Prime Contractors shall attend a Monthly Schedule Update Meeting. It is mandatory that all Prime Contractors provide their updated information to the Lead Contractor seven (7) calendar days prior to the Monthly Update Meeting. The Department reserves the right to request additional updates, at no cost to the Department, from any Contractor. The Lead Contractor shall provide documentation confirming the Monthly Update Meetings, stating the date, time, and attendance.
- B. At the conclusion of the Monthly Schedule Update Meeting, all information collected will be checked by the Lead Contractor against the current Project Schedule. After all revisions in logic and time estimates have been noted, a hardcopy of the schedule (including all drafts necessary to reach agreement) will be generated, reviewed, and signed by all Prime Contractors to indicate their concurrence. The Updated Project Schedule will be distributed by the Lead Contractor to the other Prime Contractors, the Professional, and the Department within five (5) calendar days after the Monthly Update Meeting. The submission of Updated Project Schedule to the Department, Professional, and Construction Manager shall be done by hard copy (including all requested sorts and arrangements; utilizing color print), and in electronic format (computer disk or file) containing all data files in the Primavera scheduling system used to develop the schedule.
- C. Upon request, the Lead Contractor shall provide to the Department its planning data used to develop the updates of the Schedule. This planning data includes, but is not limited to:
 - 1. Job Sequences;
 - 2. Activity Logic;
 - 3. Man loading;
 - 4. Crew sizes;
 - 5. Number of shifts planned per working day;
 - 6. Number of crews per shift; and
 - 7. Equipment loading.

- D. As part of the Job Conference, all activities scheduled to begin in the projected work for the next two weeks will be reviewed in a schedule look-ahead.

8.13 **RECOVERY PLAN.**

- A. EVENTS THAT TRIGGER THE NEED FOR A RECOVERY PLAN: The Department may issue a Recovery Schedule Notice demanding that the Lead Contractor, after coordinating with the other Prime Contractors, submit a Progress Recovery Plan upon the occurrence of any of the following events:
 - 1. The progress of the Work or a single activity falls behind the contract time as shown in a currently updated and approved Project Schedule by more than fifteen (15) calendar days; or
 - 2. A missed milestone; or
 - 3. When an updated Project Schedule provides a completion date past the Contract Completion Date; or
 - 4. When a late finish for any activity does not come within the time allowed by the current Project Schedule.
 - 5. When, in the sole opinion of the Department, it appears likely that the Work will not be completed within the Contract Time.
- B. The Prime Contractor(s) responsible for the occurrence will work with the Lead Contractor to prepare a Recovery Plan indicating that all future activities, Project completion and occupancy dates will be met within the Contract Time. The Recovery Plan shall be developed and received by the Department within three (3) calendar days of receipt of the Recovery Schedule Notice. The Recovery Schedule shall be implemented immediately unless otherwise directed by the Department.
- C. In order to create and maintain the Recovery Plan, the Prime Contractor(s) agree(s) to undertake, but not be limited to, some or all of the following actions at no additional cost to the Department: increase the manpower, the number of working hours per shift, the number of shifts per day, the number of working days per week, the quantity of equipment, or any combination of the foregoing, and reschedule such activities to bring the project back on schedule.
- D. Failure of any Prime Contractor to comply with these requirements shall be considered grounds for a determination by the Department that the Prime Contractor is failing to prosecute the Work with sufficient diligence to ensure its completion within the Contract Time and is failing to comply with the Contract Time provisions of the Contract. Such determination may result in default and/or suspension and/or debarment of the Contractor.
- E. The Department's acceptance of the Recovery Plan does not relieve the Prime Contractors of the responsibility for the accuracy of the schedule and for the Prime Contractors' obligations to meet the Contract Completion Date. The Department's acceptance of the Recovery Plan does not constitute approval or warranty of the Prime Contractors' means, methods, and techniques of construction. The Department reserves the right to review any Recovery Plan to determine if it satisfies the Project Schedule. If the Recovery Plan does not satisfy the Project Schedule, the Department may elect to prepare a Recovery Plan, to which the Prime Contractors must adhere. The costs incurred by the Department in preparing the Recovery Plan will be assessed against the Prime Contractors on a *pro rata* basis (based upon individual contract price/all contracts awarded on the Project) by credit change order.

- F. If an updated monthly Project schedule provides a completion date past the Contract Completion Date, then a Recovery Plan is required, not an Extension of Time.
- 8.14 **REQUESTS FOR EXTENSIONS OF TIME.** All requests for Extensions of Time shall be submitted to the Department in writing on the form provided by the Administrative Procedures. Reasons substantiating the request shall be included or the request may be denied. All such requests must be filed within ten (10) calendar days of the end of the event or issue that caused the alleged delay.
- 8.15 **EFFECT OF GRANT OF EXTENSIONS OF TIME TO OTHER CONTRACTORS.** Activity time delays shall not automatically merit an extension of the Contract Completion Date of this or any other Contract. The granting of an Extension of Time to one Prime Contractor does not automatically entitle any other Prime Contractor to an Extension of Time.
- 8.16 **EXTENSIONS OF TIME AND IMPACT ON SCHEDULE.**
- A. A change order, field order or delay may not affect existing critical activities or cause non-critical activities to become critical. Change orders, field orders or delays may result in the Department giving the Contractor part of or the entire available total float that may exist within an activity chain on the Network, thereby not causing any effect on any interim milestone date or the Contract Completion Date of this Contract. The Project Schedule shall not excuse the performance of the Contractor from activities not indicated on the Project Schedule.
- B. If the Department, for any period after the commencement of On-Site Work, grants an Extension of Time to any Prime Contractor, the Lead Contractor may be required by the Department to prepare a revised Project Schedule and provide copies to all Prime Contractors. All Prime Contractors are required to provide the Lead Contractor with information necessary to create the revised Project Schedule within seven (7) calendar days upon notice of approval of an Extension of Time. If a revised Project Schedule is requested, the Lead Contractor must send the revised Project Schedule, signed by all Prime Contractors, to the Professional and the Department within fourteen (14) calendar days of the approval of the Extension of Time. If the time limits set out in this Paragraph are not met, or the Prime Contractors are unable to reach agreement on the Project Schedule, the Department reserves the right to prepare the schedule which will be adhered to by all Prime Contractors. All costs incurred by the Department in preparing the schedule will be assessed to the Prime Contractors on a *pro rata* share (based upon individual Contract price/all Contracts awarded on the Project) by credit change order or at the Department's discretion.
- C. Upon the granting of an Extension of Time, the monthly updating of the Project Schedule may result in changes in the dates on which activities and the Project itself are expected to be completed. The process of updating the Project Schedule does not constitute Department approval of requests for Extensions of Time and does not replace the process of seeking extensions in accordance with both the applicable provisions of the General Conditions of the Contract and the Administrative Procedures, both of which will be strictly enforced. To substantiate and support any timely filed requests for Extensions of Time, the Prime Contractor(s) must submit, through the Lead Contractor, CPM Schedules (based upon the current Project Schedule in effect at the time the Extension of Time is submitted) with and without the asserted delay. The Prime Contractor(s) must also establish that the delay is justifiable in accordance with the Requests for Extensions of Time paragraph of these General Conditions. Data drawn from the Project Schedule will also be used by the Department in assessing responsibility for liquidated damages if any Prime Contractor causes an unjustified delay.

- D. The Milestones shall be updated and adjusted within ten (10) calendar days of the Department granting any Prime Contractor an Extension of Time. If a Recovery Plan that was accepted by the Department requires modification of any future Milestone, the Project Schedule and Milestones must be revised accordingly. The Milestones shall be updated and adjusted each time the Project Schedule is revised so that the two instruments remain coordinated.
- E. Adjusting the Project Schedule through the use of a Recovery Plan does not constitute approval by the Department of any request for an Extension of Time and does not replace the process of seeking Extensions of Time in accordance with the Extension of Time paragraph in this Article of these General Conditions and the Administrative Procedures, which provisions will be strictly enforced. If a Prime Contractor submits a timely filed request for an Extension of Time, that Prime Contractor must also submit, through the Lead Contractor, a proposed Milestone schedule with and without the asserted delay.

The remaining paragraphs in Article 8 apply to all Projects

8.17 **DELAYS AND EXTENSIONS OF TIME.** If the Contractor is delayed by:

1. A Critical Activity on the current Progress Schedule that is beyond the control or responsibility of the Contractor; or
2. Labor disputes; or
3. Fire; or
4. Unavoidable casualties; or
5. Delay due to suspension of work, as provided in Article 15 of these General Conditions; or
6. Any cause that the Department determines may justify the delay;

then the Contract Time may be extended by the approval of the Department, through an Extension of Time, for such reasonable time as the Department may determine. The Department will respond to a Contractor's timely request for Extension of Time within thirty (30) calendar days of the Department's receipt of such request.

8.18 **UNFAVORABLE WEATHER.** Unfavorable weather, including but not limited to rain, snow, and cold or freezing weather, is not an excuse for stopping Work under the Contract. The Prime Contractor shall use such methods of protection as may be necessary to continue the Work throughout the period of unfavorable weather. Any Extension of Time due to unfavorable weather conditions shall be excusable and non-compensable.

8.19 **EXTENSIONS OF TIME NOT AN ADMISSION OF LIABILITY FOR DELAY.** The approval of an Extension of Time only constitutes a release by the Department of the Department's ability to assess liquidated damages against the Contractor for the number of days granted by the Extension of Time. The Department's approval of an Extension of Time **shall not** be construed or interpreted by any Contractor as an admission that the Department is liable for delay damages. The Contractor agrees that the Department's grant of an Extension of Time will not be used as an admission by the Department of any liability for delay in any subsequent dispute regarding delays. This Paragraph does not preclude either the Contractor's rights or the Department's rights to pursue a claim for damages under other provisions of the Contract Documents.

ARTICLE 9: SUBMITTALS And COORDINATION DRAWINGS

9.1 **SUBMITTALS.**

- A. The Contractor shall submit all necessary submittals to the Professional for review and approval. The Professional shall then distribute all approved submittals to the Department and consultants in accordance with the Submittal Schedule (See Paragraph 9.2) The Submittal Schedule shall be developed at the first Job Conference after the Initial Job Conference.
- B. Submittals shall be in accordance with the Contract Documents and include, but not be limited to, such items as:
1. Contractor's, Subcontractor's, manufacturer's or fabricator's shop drawings.
 2. Descriptive literature including, but not limited to:
 - a. Catalog cuts
 - b. Diagrams
 - c. Operation charts or curves
 - d. Test reports
 - e. Samples
 - f. Operations and maintenance manual, including parts lists
 - g. Certifications
 - h. Warranties
 - i. Manufacturer
 3. Coordination Drawings as required.
- C. The Professional's approval of submittals does not relieve the Contractor of the responsibility for any deviation from the requirements of the Contract Documents, unless:
1. The Contractor has informed the Professional of such deviation in writing in its letter of submission at the time of submission; and
 2. The Contractor has noted the deviation on the shop drawings; and
 3. The Professional has given written approval of the specific deviation. The Professional's approval also does not relieve the Contractor from responsibility for errors or omissions in the submittals.

If each of these three steps is not performed, the Contractor will not be relieved of the responsibility for executing the Work in complete conformity with the Contract Documents, even though the submittals have been approved.

Failure to mention a deviation shall be construed as a non-conformance with the Contract Documents. The Contractor shall be responsible for all costs associated with bringing the Work back into conformance with the Contract Documents, including costs incurred by any other Prime Contractor, the Professional and the Department as a result of such non-conformance.

- D. The Contractor shall review, stamp its approval and submit all submittals required by the Contract Documents or required subsequently by the Department or the Professional in accordance with the Submittal Schedule in an orderly sequence so as to cause no delay in its Work or in the Work of any other Prime Contractor. Submittals shall be properly identified as specified in the Administrative Procedures and in such manner as the Department may require.
- E. By approving and submitting submittals, the Contractor represents that such submittals are sufficient for review purposes and that it has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data and that it has checked and coordinated each submittal with the requirements of the Work and of the Contract Documents. Where field measurements and field construction criteria are not verifiable at the date of the submittal, the Contractor shall ensure that dimensions will be held when constructed.
- F. Submittals will be reviewed and approved within fourteen (14) calendar days of the submission dates established by the Submittal Schedule, unless the Department and the Professional approve a different period of time. The fourteen calendar days span the time from receipt of the submittal by the Professional to the date the Professional transmits the return submittal from its office. The Submittal Schedule shall take transmittal times into account when time periods are reviewed. Review and approval is only for conformance with the design concept of the Project and with the information given in the Contract Documents. Approval of a separate item does not indicate approval of an assembly in which the item functions. Approval of submittals shall be carried out on the Project in accordance with the Administrative Procedures Manual. All submittals must be complete and meet the requirements of the entire specification. The Prime Contractor shall be responsible for all costs associated with delays of the Project incurred as a result of three (3) or more disapprovals of its submittals for incompleteness.
- G. The Contractor shall make any corrections required and shall resubmit the required number of corrected copies of submittals until approved. The resubmission shall be acted upon within ten (10) calendar days of its receipt, unless the Department and the Professional approve a different period of time. The ten (10) day period begins on the first full day after the Professional receives the resubmission and ends on the date the Professional sends the resubmission to the Contractor. Submittals received earlier than the date established by the Submittal Schedule are not required to be returned until ten (10) days after the date established for the submittal by the Submittal Schedule.
- H. When resubmitting submittals, the Contractor shall direct specific attention to any revisions made, other than the corrections requested by the Professional on previous submissions, by noting such revisions on the resubmissions.
- I. The Professional's approval of shop drawings or samples does not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents, unless the Contractor has informed the Professional in writing of such deviation at the time of submission, has noted the deviation on the submittals, and the Professional has given written approval of the specific deviation. The Professional's approval also does not relieve the Contractor from responsibility for errors or omissions in the submittals. Failure to mention a variation shall be construed as a non-conformance with the Contract Documents. The Contractor shall be responsible for all costs associated with bringing the Work back into conformance with the Contract Documents, including costs incurred by any other Prime Contractor, the Professional and the Department as a result of such non-conformance.

- J. No portion of the Work requiring a submittal shall be commenced until the submittal has been approved. Any Work commenced by the Contractor prior to final approval of the submittal is performed by the Contractor at its own risk.
- K. Each Contractor shall be responsible for reviewing every other Prime Contractors' approved submittals for consistency and interface with its Work. Any exception taken to the content of another Contractor's approved submittal must be presented in writing to that Prime Contractor, the Professional and the Department within seven (7) calendar days of the Contractor's receipt of the other Contractor's approved submittal.

9.2 **SUBMITTAL SCHEDULE.**

- A. Each Contractor shall, within seven (7) days of the Effective Date of the Contract prepare and submit a Submittal Schedule to the Lead Contractor, organized by related specification section number sequences, showing all items requiring submission. The Submittal Schedule shall be submitted in a format as prescribed by the Administrative Procedures.
- B. The Contractor's initial Submittal Schedule shall include the following, at a minimum:
 - 1. Submittal breakdown by Specification Section number and division; and
 - 2. Scheduled date for initial submittal of item; and
 - 3. Days required after return of an approved submittal to order, fabricate and deliver the specific item to the site.
- C. **The Submittal Schedule shall be integrated and tied to the logic of activities in the Project Schedule by the Lead Contractor to ensure adequate review time is included in the activity durations for all items on the Submittal Schedule.**
- D. Each Contractor shall comply with the Submittal Schedule and submit items within the order and dates established therein. Each Contractor shall not be permitted to stack the submittals in a manner that would inundate the Professional in such a manner that the submittals cannot be reviewed and decided upon in a timely manner.
- E. Submittals relating to materials and equipment that require advanced approval shall be scheduled and submitted before the Contractor issues a purchase order or otherwise acquires the materials or equipment.
- F. Drawings of component items forming a system or that are interrelated shall be organized and submitted concurrently. Certifications to be submitted with the drawings shall be so scheduled. The Submittal Schedule shall be coordinated with the Contract Breakdown Sheet (GSC-30) to ensure delivery and payment requests are projected accurately.
- G. Neither the Department, its designee, nor the Professional will be responsible for the failure of the Contractor to properly schedule the process of material/product design, submittal, review, fabrication, delivery and storage/installation.
- H. The Department may require the Contractor to add and/or delete items on the Submittal Schedule at any time.

- I. The approved Submittal Schedule will become a part of the Contract and the Contractors must comply with it. The Contractor shall provide to the Lead Contractor sufficient information to permit the Lead Contractor to revise and/or update the Submittal Schedule monthly to take into account all changes and coordinate this Submittal Schedule with the Project Schedule. Each such revised edition and/or revision to the Submittal Schedule shall be resubmitted to the Department for approval. This Submittal Schedule shall be coordinated with related submittals of all Prime Contractors.

9.3 **COORDINATION AND SEQUENCING OF SUBMITTALS.**

- A. The Contractor shall coordinate preparation and processing of submittals with the performance of the Work and the Project Schedule so the Work will not be delayed by the submittal process.
- B. The Contractor shall coordinate and sequence different categories of submittals for the same Work and for interfacing units of Work, so that one will not be delayed by the coordination of the Professional's review with another.
- C. No delay damages or time extensions will be granted for time lost due to late, inadequate or uncoordinated submittals or for the time required to resubmit late, inadequate or uncoordinated submittals.
- D. The Contractor shall be responsible to determine items that will require long lead time to procure. Adequate time shall be allowed for long lead items that require submittals to be made early during the course of the Work in the Submittal Schedule and Project Schedule.
- E. No delay damages or time extensions will be granted for lack of consideration being given to long lead items.

9.4 **APPROVAL OF SOURCE OF MATERIAL AND SUBCONTRACTORS.**

- A. If Contractor's awarded contract value is up to and including \$1,000,000, then the Contractor shall submit, within fifteen (15) days of the Effective Date of the Contract, on Department form, the names and addresses of all manufacturers, producers, and subcontractors or other sources of each item of material or equipment to be used on the Project, except those specifically excluded in the specifications, and shall indicate on the form the quality of such material and equipment.
- B. If Contractor's awarded contract value exceeds \$1,000,000, then the Contractor shall submit, within forty-five (45) days of the Effective Date of the Contract (or earlier if required by a Letter of Intent), on Department form, the names and addresses of all manufacturers, producers, and subcontractors or other sources of each item of material or equipment to be used on the Project, except those specifically excluded in the specifications, and shall indicate on the form the quality of such material and equipment.

9.5 **COORDINATION DRAWINGS.**

- A. **All Contractors are required to participate in the creation and updating of one complete composite set of Coordination Drawings to pre-plan the installation of General, HVAC, Electrical, Fire Protection, Plumbing and other Work as required.**

- B. The Department may consider the completion of Coordination Drawings for each Contract as a condition of approval for any Application for Payment involving any material or equipment delivered or for any Work by these Contractors.**
- C. The purpose of these Coordination Drawings is to identify coordination problems and interferences prior to installation. The Contractors shall prepare and submit Coordination Drawings for any Work where close coordination is required for installation of products and materials fabricated off-site by separate Contractors, and where limited space availability necessitates maximum utilization of space for efficient installation of different components. Coordination Drawings are required for all equipment rooms, floors, spaces and other areas in which the Work of two or more trades or Contractors is to be installed and in which the potential for conflict or interference exists, or as determined by the Department.
- D. The HVAC Contractor will be the Lead Contractor for purposes of the Coordination Drawings and shall facilitate the Coordination Drawing Process between Prime Contractors.**
- E. The HVAC Contractor will prepare background drawings that will be distributed to all of the other Contractors for them to mark-up and return to the HVAC Contractor.
- F. The Coordination Drawings shall:
1. Show the Work of all Contractors impacted; and
 2. Be drawn to a scale not smaller than 1/4" = 1'-0" (30" x 42" sheet size); and
 3. Show clearly in both plan and elevation that all Work can be installed without interference; and
 4. Show the interrelationship of equipment and systems to indicate coordination among trades; and
 5. Indicate required installation sequences; and
 6. Be based on submitted shop drawings and Contract Documents, and include equipment foundations, all equipment, piping, conduit, ductwork, panels, control centers and related appurtenances.
- G. The Department may assist, if requested, in the resolution of conflicts or disputes with locations of Work items found by the Contractors during the preparation of the Coordination Drawings.
- H. The HVAC Contractor will incorporate items indicated on the marked-up drawings onto the background drawings and print and distribute the final Coordination Drawings. One set of reproducible and four sets of prints of the Coordination Drawings are to be issued to the Department and one set of reproducible drawings are to be issued to each Contractor.
- I. Since the preparation of Coordination Drawings acceptable to the Department is a contract requirement, the cost is to be included in each Contractor's bid.**

Any Work installed prior to approval of Coordination Drawings shall be at the Contractor's risk. Subsequent relocation required to avoid interferences shall be made without additional expense or time extensions to the Department.

- 9.6 **STANDARDS OF QUALITY.** Where trade names, catalog number and manufacturers of material or equipment are specified, they are mentioned for the purpose of establishing a standard of quality, performance, and appearance, and for establishing a standard of competitive bidding. If the Contractor wishes to utilize material or equipment that is of the same type, but manufactured by others than those named in the specifications, the Contractor shall certify that the material or the equipment is equal in quality, performance and appearance to that mentioned in the specifications. The Contractor shall submit to the Professional and the Department, subsequent to the Award of Contract, a request to install such material or equipment. The Contractor's request shall include a comprehensive description of the material or equipment proposed to be utilized as an equal, including engineering, construction, and dimension and performance data. Within thirty (30) days after receipt of the Contractor's request, the Professional will render a written determination to the Contractor, which is final. If the Contractor refuses or fails to proceed as directed by the Professional, the Department may declare the Contractor in default. The Contractor may file a claim for additional costs resulting from this decision.
- 9.7 **SUBSTITUTION OF MATERIALS.** If the Contractor desires to furnish materials or equipment other than that which is specified, the Contractor shall submit to the Professional a comprehensive description of the material or equipment proposed for substitution, including engineering, construction, dimension, performance and appearance data, along with a statement of the cost involved. The Professional, with the approval of the Department, shall render a written determination to the Contractor. If the substituted material or equipment is approved, the Contractor is responsible for any and all costs incurred and working to eliminate any additional time needed as a result of the substitution. If the cost of the substituted item is less than the specified item, the Department is entitled to a credit for the difference between the cost of the substituted item and the item specified.

ARTICLE 10: PROTECTION OF PERSON & PROPERTY AND INSURANCE AND INDEMNIFICATION

- 10.1 **SAFETY PRECAUTIONS AND PROGRAMS.** The Contractor is responsible for initiating, maintaining and supervising all safety precautions and programs required under its portion of the Work.
- 10.2 **SAFETY OVERVIEW.** The Contractor and its subcontractor of all tiers will be responsible for the safety and security of its employees under their control and as to its area of Work and will submit a copy of its site specific safety program to the Department prior to commencement of the Work.
- A. The Contractor shall recognize that it is important to business to prevent the occurrence of incidents that lead to occupational injuries or illnesses. Safety and Health requirements on this Project shall be assembled and administered by each Contractor in accordance with the following:
1. The accident prevention policy shall be based on a sincere desire to eliminate personal injuries, occupational illnesses, and equipment and property damage and to protect the general public exposed to or associated with the Work.
 2. The importance of safety on the Project shall be recognized and accident prevention shall be an integral part of all operations.

3. Contractors and subcontractors shall conduct Work in a safe and practical manner in conformance with Occupational Safety and Health Act of 1970 and as amended, and the latest edition of the Manual of Accident Prevention, Associated General Contractors of America.
4. In addition to the Contractor's Safety Program, the Contractors and subcontractors shall follow all applicable Federal, State and local laws/regulations pertaining to safety, health, pollution control, water supply, fire protection, sanitation facilities, waste disposal and other related items.
5. OSHA and Emergency Phone Numbers Poster shall be posted in a conspicuous location.
6. Each Contractor shall cooperate fully with all other Contractors and the Department in their respective safety and health programs.
7. Good housekeeping shall be observed at all times, and waste, debris, and garbage shall be removed daily or placed in appropriate waste containers outside of the work place and all materials, tools and equipment shall be stored in a safe and orderly fashion.
8. Each Contractor shall educate its employees and subcontractors as to the site specific Health and Safety Plan and to enforce adherence to safe work procedures outlined in these General Conditions.

10.3 **SAFETY OF PERSONS AND PROPERTY.** The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

- A. All employees involved in the Work and all other persons who may be affected thereby; and
- B. All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of its subcontractors or sub-subcontractors; and
- C. Other property within the Contract Limits or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- D. All areas of the Project site where unauthorized entry or presence would present a potential hazard to the health and safety of trespassers shall be adequately posted to prevent access by unauthorized personnel.

10.4 **COMPLIANCE WITH SAFETY LAWS.** The Contractor shall comply at all times with all applicable Federal, Commonwealth, and local laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property and to protect them from damage, injury or loss. The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities until the acceptance of all on-site physical work, change order work, and/or demobilization. All areas of the Project shall be hardhat areas. All persons within the Contract Limits are required to be protected by protective helmets in compliance with Occupational Safety & Health Administration (OSHA) requirements.

10.5 **SAFETY PROGRAM.**

- A. The Contractor and its Subcontractor(s) of any tier shall be required to have its company Safety Program in place and implemented throughout the duration of the project.
- B. The Contractor will provide a written Site Safety Program, maintain injury records as required by OSHA, keep the Department informed of all serious and/or lost time injuries, and make available to the Department information on injury logs, safety meetings and their topics, inspection reports and other items concerning Project safety.
- C. The Contractor shall provide for frequent and regular safety inspections of the Project site, materials, and equipment.
- D. The Contractor shall designate a responsible member of its organization who shall be the Contractor's Safety Representative, knowledgeable in the areas of safety, health and fire prevention. This individual should be the Prime Contractors' Superintendent, unless another individual (who must be on-site full time) is designated in writing by the Contractor. The Safety Representative shall be properly trained in accordance with OSHA requirements. The Representative's duty shall be the prevention of accidents, including inspecting, correcting hazards, and providing written documentation of the inspections. This individual shall have the responsibility and authority to act as liaison with the Contractor and subcontractors on all matters related to safety. This individual shall have the full authority necessary to correct unsafe or hazardous conditions.
- E. Each Contractor shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of Personal Protective Equipment (PPE). If such hazards are present, or likely to be present, the Contractor shall:
 - 1. Select, and have each affected employee use the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;
 - 2. Communicate selection decisions to each affected employee; and
 - 3. Select PPE that properly fits each affected employee.
 - 4. The Contractor shall verify that the required workplace hazard assessment has been performed through written documentation.
- F. The Contractor will inform the Department of any Federal or State inspection, and the Department will receive copies of all Federal and State inspection reports, citations, penalties, abatement dates, etc.
- G. All Contractors will give full cooperation to all authorized Inspectors, who may periodically inspect the Project without notice.
- H. As stated elsewhere in these General Conditions, the Contractor shall maintain unobstructed access to all buildings, gates and areas of the site for emergency vehicles, service vehicles and fire-fighting equipment and at no time shall block off or close roadways or fire lanes without providing auxiliary roadways and means of entrance acceptable to the Department.
 - 1. The Contractor shall be responsible for the development and maintenance of an effective fire protection and prevention program at the Project throughout all phases of the construction, repair, alteration, or demolition work. Each Prime Contractor shall ensure the availability of the fire protection and suppression equipment required by OSHA.

2. Fire hydrants must remain accessible at all times. The Contractor shall make necessary arrangements with the local authorities to provide fire protection at all times. The Contractor shall keep any existing fire hydrants adjacent to the Work readily accessible to fire apparatus and shall not place material or other obstructions within fifteen (15) feet of any hydrant.
3. The Contractor shall ensure that fire extinguishers are available with frequency and within distances set forth in any OSHA requirement for welding or other hot equipment or tools.

10.6 **EMPLOYEE SAFETY ORIENTATION AND SAFETY MEETINGS.**

- A. Each Contractor and its Subcontractor(s) of any tier shall follow OSHA requirements regarding the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment.
- B. The Contractor and each Subcontractor shall also provide a company-specific basic site and safety orientation to each individual before they begin Work on the Project. This orientation shall cover general safety rules, potential hazards, site work rules, wearing of protective equipment, etc. The Contractor and each Subcontractor shall keep a record of all attendees and topics discussed.
- C. The Contractor and each of its subcontractors shall hold weekly Toolbox Meetings at the Project site.

10.7 **ACCIDENT REPORTS.**

- A. In the case of an injury to an employee of the Contractor or its Subcontractor(s) involving lost time beyond the date of the injury, the Contractor will furnish to the Department a copy of the first Report of Injury, the injury report filed with the insurance company and a Foreman's Accident Report within 24 hours after the occurrence. Any incidents involving the police or other law enforcement agency will also be included in this documentation.
- B. All recordable occupational injuries and illnesses, other than First Aid cases, as required by the regulations issued under the Occupational Safety and Health Act of 1980 (as amended) shall be recorded on the appropriate OSHA form each month and a copy forwarded to the Department.

10.8 **FIRST AID TREATMENT.**

- A. The Contractor shall keep on site a first aid kit supplied according to current regulations and shall have a certified person trained in first aid and CPR to cover those periods outside of normal project working hours.
- B. In case of an injury to an employee of the Contractor or its Subcontractor(s) requiring First Aid Treatment, the Contractor will furnish to the Department a copy of the First Aid Register, in accordance with the Contractor's Procedures Manual, detailing the type of injury and the treatment provided.

10.9 **PROJECT EQUIPMENT.**

- A. Each Contractor and its Subcontractor(s) will supply all necessary equipment and take the required precautions to maintain the equipment according to the current regulations and Contract Documents. The Contractor shall accept the responsibility to assure that all of the necessary safety equipment is supplied and used as required.
- B. Each Contractor shall clearly mark its name on each and every piece of its equipment on-site. The name shall be marked in a place on the equipment that is clearly visible.
- C. All tools, saws and mechanical equipment utilized by the Contractor shall have protective safety devices in operating order when using the equipment.

10.10 **EMPLOYEE AND VISITOR DRESS REQUIREMENTS.**

- A. This Project shall be a hardhat Project and, all supervisors, employees and visitors shall be required to wear a suitable hardhat while on the Project site.
- B. Other appropriate personal protective equipment shall be provided and worn as required for personal safety and protection.

10.11 **EMERGENCY NOTIFICATION.** A procedure will be established by each Contractor to provide emergency communications to all individuals on the site. This procedure will not be used to handle routine calls to individuals.

10.12 **FAILURE TO COMPLY WITH SAFETY REGULATIONS.**

- A. Failure to comply with the Contract safety requirements will be considered as non-compliance with the Contract and may result in remedial action provided by the Contract.
- B. If the Department notifies any Contractor of any non-compliance with the provisions of this program, the Contractor shall make all reasonable efforts to correct the unsafe conditions or acts. Satisfactory corrective action shall be taken within the time specified by the Department.
- C. If a Contractor or Subcontractor refuses to correct unsafe or unhealthy conditions or acts, the Department may take one or more of the following steps:
 - 1. Cease the operation or a portion thereof until the condition is brought into compliance with the Site Safety Procedures;
 - 2. Stop payment for the Work being performed; and
 - 3. Correct the situation using other employees and backcharge the Contractor for expenses incurred.

All costs, including but not limited to those above, associated with ensuring a safe and health conscious work environment shall be borne by the non-complying Contractor and costs will be backcharged to the non-conforming Contractor.

- D. Each Contractor shall be responsible for payment of all fines and/or claims for damages levied for deficiencies relating to conduct of Contractor's Work.

- 10.13 **EXPLOSIVES.** Unless permitted in the specifications, the use of explosives and other hazardous materials or equipment is not permitted for the execution of the Work. If explosives are permitted, the Contractor shall observe the utmost care, performing such Work with experienced personnel and in accordance with all Federal, Commonwealth, local, Departmental, and institutional regulations, so as not to endanger life or property. Rock encountered within five (5) feet of pipelines or buildings shall be removed without blasting. All explosives shall be stored in a secure and safe manner, in strict conformity with all Federal, Commonwealth and municipal regulations and all such storage shall be clearly marked "Dangerous-Explosives" and shall be in the care of competent watchmen at all times. The Contractor shall provide insurance in accordance with the special insurance provision in these General Conditions relating to "Blasting". The Contractor shall be responsible for all damages caused by the use of explosives, hazardous materials and/or equipment, and blasting and shall notify the Department of any claims of damage associated with this Paragraph at the time of claim.
- 10.14 **REMEDICATION OF DAMAGES.** The Contractor shall remedy all damages or loss to any property caused in whole or in part by the Contractor, any Subcontractor, any sub-subcontractor, or anyone directly or indirectly employed by any of them. If damage or loss is attributable to faulty drawings or specifications or to the acts or omissions of the Department or Professional, and the damage or loss is not attributable to any fault or negligence of the Contractor, then the Contractor shall not provide remediation.
- 10.15 **LOADS.** The Contractor shall not load or permit any part of the Work to be loaded so as to endanger the safety of persons or property.
- 10.16 **CONTRACTOR'S LIABILITY INSURANCE.** The Contractor, during the progress of the Work and until the acceptance of all on-site physical work, change order work, and/or demobilization, shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations by itself or by any Subcontractor:
1. Claims under Worker's Compensation Disability Benefit and other similar employee benefit Acts; and
 2. Claims for damages because of bodily injury, occupational sickness or disease, or death of its employees, and claims insured by usual personal injury liability coverage; and
 3. Claims for damages because of bodily injury, sickness or disease, or death, of any person other than its employees, and claims insured by usual personal injury liability coverage; and
 4. Claims for damages because of injury to or destruction of tangible property including loss of use resulting therefrom.
- 10.17 **INSURANCE LIMITS.** The insurance required by this Article shall be written for not less than any limits of liability specified in this Article, or required by Law.
- 10.18 **CERTIFICATES OF INSURANCE.** Certificates of Insurance acceptable to the Department shall be filed with the Department prior to the commencement of on-site work. These certificates shall contain a provision that coverages afforded under the policies shall not be canceled or changed until at least ninety (90) calendar days written notice has been given to the Department. Renewal certificates must be provided to the Department prior to the expiration of the prior policy as stated on the certificate. The insurance certificate shall also name the Commonwealth of Pennsylvania, the Construction Manager if there is one on the project and the Professional as additional insureds.

10.19 **COMPREHENSIVE GENERAL LIABILITY AND AUTOMOBILE LIABILITY INSURANCES.** The Contractor's comprehensive general liability insurance and automobile liability insurance shall be in an amount not less than \$1,000,000 for injuries, including accidental death, to any one person and subject to the same limit for each person, and in an amount not less than \$2,000,000 for each occurrence. The Contractor's property damage liability insurance shall be in an amount not less than \$2,000,000 for each occurrence.

A. For Subcontractors, the Contractor shall either:

1. Require each of its Subcontractors to procure and to maintain Subcontractors' comprehensive general liability, automobile liability, and property damage liability insurance of the type and in the same amounts as specified in this subsection for the life of its subcontract and/or until the acceptance of all of its on-site physical work, change order work, and/or demobilization;

OR

2. Insure the activity of its Subcontractors in its own policy.

B. If required by a Special Condition, the Contractor's and its Subcontractors' liability insurance shall include additional riders providing for adequate protection against the indicated special hazards (e.g., blasting, flooding, underpinnings, etc.).

C. The Contractor must submit to the Department, within ten (10) calendar days from the Initial Job Conference, and prior to the beginning of on-site work, evidence that all subcontractors and sub-subcontractors are covered by insurance.

10.20 **PROPERTY INSURANCE.** The Contractor shall, until all physical on-site work is complete, including change order work, punch list work, demobilization or seasonal work, maintain insurance on all insurable work included in the Contract against loss or damage by fire and lightning and those perils covered by the extended coverage endorsement. Insurable work includes work both inside and outside of any building being constructed. The insurance (which must include Builder's Risk Insurance or an installation floater that covers all risks) must be in the names of the Department and the Contractor in full insurable value thereof as will fully protect the interests of the Department and the Commonwealth, the Contractor, Subcontractors, and Sub-subcontractors.

10.21 **RISK TO CONSTRUCTION WORK.** The risk of damage to the construction work is that of the Contractor and surety. No claims for such loss or damage will be recognized by the Department, nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.

10.22 **UNACCEPTABLE SURETY OR INSURANCE COMPANY.** If the surety on the bonds or the insurance company providing the required coverage becomes unsatisfactory to the Department, the Contractor must promptly furnish such additional security or insurance coverage as may be required to protect the interest of the Department. The Contractor shall, from time to time, furnish the Department, when requested, satisfactory proof of coverage of each type of Bond and/or insurance required. Failure to comply with this provision shall result in the cessation of the Work, and shall be sufficient grounds to withhold any further payments due the Contractor and/or to declare the Contractor in default. The Department will not consider any claim for an Extension of Time, costs, or damages because of time lost due to such instance brought by the noncompliant Contractor. The noncompliant Contractor shall be responsible for damages incurred by other Prime Contractors in accordance with these General Conditions.

- 10.23 **INDEMNIFICATION.** The Contractor shall indemnify and hold harmless the Commonwealth, Department, and the Professional and their agents and employees from and against all claims, damages, losses and expenses, including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense is:
- A. Attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property, including the loss of use resulting therefrom; and
 - B. Caused in whole or in part by any negligent act or omission of the Contractor or any Subcontractor, regardless of whether or not it is caused in part by a party indemnified hereunder.
- 10.24 **INDEMNIFICATION NOT LIMITED BY EMPLOYEE BENEFITS ACTS.** In any and all claims against the Commonwealth, Department, or the Professional or any of their agents or employees, by any employee of the Contractor or any Subcontractor, the indemnification obligations under this Article shall not be limited on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor under Worker's Compensation Acts, Disability Benefit Acts, or other employee benefit Acts.
- 10.25 **INDEMNIFICATION DOES NOT COVER THE CONSTRUCTION MANAGER'S OR THE PROFESSIONAL'S ACTIONS.** The obligations of the Contractor under this Article shall not extend to the liability of the Construction Manager (if retained for the Project) or the Professional, the Professional's consultants, agents, or employees arising out of:
- A. The preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications; or
 - B. The giving of, or the failure to give, directions or instructions by the Professional, its agents or employees, provided such giving, or failure to give, is the primary cause of the injury or damages.
- 10.26 **WORKPLACE DRUG AND ALCOHOL POLICY.** The Department is committed to providing a safe workplace for the workers assigned to the Project, promoting high standards of employee health and fostering productivity. Consistent with the intent and spirit of this commitment, the Department has established a drug and alcohol policy specification for the Project with the goal of maintaining a work environment that is free from the effects of the use of illegal drugs and alcohol.
- A. **POLICY:** The Department's policy is modeled after and follows the standards set forth in the U.S. Department of Transportation Drug and Alcohol Policy. This specification is not intended as a substitute for the Prime Contractor's complete written drug and alcohol policy. Such policies often include, but are not limited to, important features such as employee education and awareness programs, employee assistance programs and treatment options.

The Department requires that anyone employed at the Project site will comply with the drug and alcohol policy as outlined in this section. The Department reserves the right to amend this specification upon written notice to the Prime Contractor.
 - B. **CONTRACT REQUIREMENTS:** All Prime Contractors must have and enforce a written Drug and Alcohol Policy incorporating all the requirements, terms, and conditions set forth in the specification. This specification is applicable to all employees, current and prospective, new hires, replacement workers and supervisory personnel, in order to be eligible to perform work at the Project site. The Prime Contractor is responsible for

the compliance and enforcement of this specification for all subcontractors of any tier, suppliers, vendors, and visitors through confirmation of their abstinence from possession or use of the substances listed in this specification.

The Prime Contractor is required to certify by a signed and notarized letter to the Department that it will provide a drug and alcohol free workplace at the Project site and provide a copy of the written drug and alcohol policy to the Department, prior to the commencement of work, for verification of the Contractor's compliance. A Contractor may be subject to suspension or debarment if it makes a false certification of a drug and alcohol free workplace as required under this specification.

The Prime Contractor is responsible for insuring that all suppliers, vendors, and visitors receive a copy of this policy as due notice of testing requirements and consequences for failure to submit to testing or testing positive. Furthermore, in the event of an incident and/or accident occurrence involving suppliers, vendors, and/or visitors, the same agree to submit to drug and alcohol testing at the Department's request. Refusal to submit to drug and alcohol testing, which includes failure to take the actual test and/or the tampering or adulterating of the sample, when requested, would be grounds for the Department to have the supplier, vendor or visitor permanently barred from the Project site.

All Contractors must train their Supervisory personnel in accordance with the standards set forth in the U.S. DOT standards. At a minimum, supervisors are required to submit to three (3) hours of drug and alcohol training per calendar year. The supervisory Personnel shall be trained to recognize factors and warnings of drug and alcohol use, take appropriate action if these issues arise on the project site, and to confront employees if drug or alcohol use is suspected.

The Prime Contractor must provide the Department with a Monthly Summary Report detailing the compliance with its drug and alcohol policy. The Report shall include, but not be limited to, details pertaining to the number of drug and alcohol tests performed for both initial testing and/or confirmation testing, the number of positive results and the number of refusals, and should state the response by the Prime Contractor to any refusals or positive tests. The Reports should also include any training for Supervisory personnel or any other employee.

The cost of maintaining a drug and alcohol policy compliant with this specification shall be the responsibility of each respective Prime Contractor affected by this specification.

C. TESTING REQUIREMENTS: The Department requires:

1. Pre-engagement drug testing;
2. Drug and alcohol testing for reasonable suspicion of illegal drug or alcohol use;
3. Random drug testing;
4. Post accident or post incident drug and alcohol testing;
5. Drug testing following discovery of illegal or unauthorized drugs or paraphernalia or any opened containers of alcohol.

D. SUBSTANCES:

Contractors will perform drug and alcohol testing using the standards set forth in the U.S. DOT drug and alcohol policy. DOT only requires the testing of alcohol and five (5) drugs: Marijuana metabolites, Cocaine metabolites (Benzoyllecgonine), Phencyclidine (PCP), Amphetamines, and Opiate metabolites. If the federal standards change, Contractors will be responsible for updating their policy to remain in conformity with this specification.

Current Threshold Limits (Five Panel Test):

<u>Type of Substance Initial Test</u>	<u>Confirmation test</u>	
Alcohol	0.02%	0.02%
Marijuana metabolites	50 ng/ml	15 ng/ml
Cocaine metabolites	300ng/ml	150 ng/ml
Phencyclidine	25 ng/ml	25 ng/ml
Amphetamines	1000 ng/ml	500 ng/ml
Opiate metabolites	2000 ng/ml	2000 ng/ml

The Five Panel Test and the levels set forth by DOT shall not be construed to limit a Contractor's right to test for any substance not listed above, including, but not limited to, prescription medication, other drugs, or to test drugs at a higher levels or to test alcohol with a lower percentage. The standards set forth by DOT are the minimum levels for drug and alcohol testing.

E. DEFINITIONS:

Positive and Negative Tests: On an initial drug or alcohol test, the Prime Contractor must report a result below the threshold limit as negative. If the result is at or above the threshold limit, the Contractor must conduct a confirmation test. On a confirmation test, the Prime Contractor must report a result below the threshold limit as negative and a result at or above the threshold as confirmed positive,

Pre-engagement testing: Testing for all drugs by the respective Prime Contractor or its Subcontractor of any tier for its employees as set forth in this specification, using DOT drug and alcohol policy standards, is required at the time of initial hire or certified proof of a drug test completed within the six months prior to initial hire.

For Cause testing: Testing of all drugs and alcohol set forth in this specification conducted by the respective Prime Contractor for its employees whose behavior on the project site causes either the Department, the Construction Manager or the respective Prime Contractor's supervisory personnel to reasonably conclude that such behavior may result from drug or alcohol use.

Random Testing: All Prime Contractor or Subcontractor employees will be subject to unannounced screenings for drug testing on random selection. The Prime Contractor will test a minimum of twenty-five percent (25%) of total participants every twelve (12) months. All employees will be subject to be randomly picked at each random testing date. An employee may be randomly picked more than once or not at all during each annual period.

Post-Accident/Incident Testing: Testing for drugs and alcohol, as set forth in this specification, shall be conducted by the respective Prime Contractor for its employees involved in an injury producing accident or a "near miss" in which injury is avoided or in events resulting in damage to property as determined by the Department, the Construction Manager or the respective Prime Contractor's supervisory personnel.

- All Prime Contractors must perform Pre-engagement, For Cause, Random and Post Accident/Incident testing as follows:
- All drug testing must be conducted in accordance with U.S. Department of Transportation drug and alcohol policy standards;
- The initial screen test for alcohol shall be performed by either a saliva test or a Breathalyzer test comparable to the type used by state or local law enforcement officials. The alcohol confirmation test shall be performed by either a blood alcohol test or a Breathalyzer test comparable to the type used by state or local law enforcement officials;
- Evidence of the negative test results of the individual employees required by the specification shall be furnished to the Department prior to the commencement of work by the individual employee and promptly after performance of any subsequent testing required by this specification.

F. COMPLIANCE PROCEDURE: The Department reserves the right to audit any drug and alcohol policy program required by this specification to verify compliance results within twenty-four (24) hours of the Department's notification of intent to audit. The Department shall have free right of access to all relevant records of the Prime Contractor and their subcontractors for this purpose, provided such record disclosures are within the scope of the Commonwealth of Pennsylvania's Department of Health and Human Services guidelines pertaining to confidentiality of employee records.

The Contractor's pre-engagement employees who receive a positive test result shall immediately leave the project site. Transportation of employees receiving a positive test result is the direct responsibility of the employing Prime Contractor. Furthermore, pre-engagement employees receiving a positive test result shall not be permitted to return to the project site earlier than ninety (90) days from the date of the positive test. At that time, the employee must be tested again in accordance with the procedures specified in this Policy.

ARTICLE 11: CHANGES IN THE WORK

11.1 **CHANGES**. The Department, without invalidating the Contract, may direct changes in the Work within the general scope of the Contract, consisting of additions, deletions or other revisions. All such changes in the Work will be authorized by Change Order or Field Order.

A. **The Contractor agrees that payment under any method noted within this Article will be the exclusive compensation for such addition, deletion, or other revision to the original Contract, including any and all costs associated with acceleration, stacking and re-sequencing of forces required by the change in order to maintain the Project Schedule.**

- B. If it is not possible to complete the Work in accordance with the Project Schedule by acceleration, stacking or re-sequencing, the Contractor may request an Extension of Time. Adequate information and proper form submission must be provided to validate this request. The Department reserves the right to deny requests not accompanied by adequate information and proper form submissions.
 - C. The language in this Article must be construed in conjunction with the detailed language of the Change Order Administrative Procedure.
- 11.2 **COST OF CHANGE ORDER.** The debit or credit cost to the Department resulting from a change in the Work shall be determined in accordance with the Change Order Administrative Procedure as determined by the Department.
- 11.3 **DISAGREEMENT AS TO COST OR CREDIT FOR CHANGE ORDER.** If the Department and the Contractor cannot agree as to the cost or credit to the Department resulting from a change in the Work, the Department shall determine the cost or credit. The Contractor **must** proceed with the Change Order work under this Article if directed to do so by the Department. The Contractor may submit the disputed cost to the Department when the Work is completed for a re-evaluation by the Department in accordance with the Dispute Resolution Article of these General Conditions. The Department may, in the Department's sole discretion, monitor any or all disputed cost work on a time and material force account basis. If the Department approves the change as a force account Change Order, the Contractor would be required to show proof of incurred cost as stipulated under the provisions of Change Order Administrative Procedure.
- 11.4 **UNIT PRICES SET OUT IN BID OR PROPOSAL.** This paragraph shall not be invoked without the Department's written approval. If unit prices were required in the Contract Documents and subsequently agreed upon, and, if the quantities originally contemplated increased in excess of 125% or decreased below 75% of the original contract quantity, the applicable unit prices may be equitably adjusted by Change Order to prevent such hardship, at the sole discretion of the Department. The Contractor must provide evidence that is acceptable to the Department that a hardship exists before an adjustment will be made.
- 11.5 **UNCLASSIFIED EXCAVATION.**
- A. Excavation, if required for this Project, will be unclassified and will include all types of earth and soil, any pebbles, boulders, and bedrock, municipal trash, rubbish and garbage, and all types of debris of the construction industry such as wood, stone, concrete, plaster, brick, mortar, steel and iron shapes, pipe, wire asphaltic materials, paper and glass. Unclassified excavation does not include unforeseen concrete foundations, walls, or slabs.
 - B. All materials encountered which are identified as described in the previous paragraph as unclassified shall be removed to the required widths and depths to create a finished product as shown and/or noted on the drawings and as written in the specifications. No additional compensation or time shall be given to the Contractor for this unclassified excavation.
 - C. Any unclassified items described in paragraphs B and C above that are discovered during any excavation are not concealed conditions or unknown physical conditions below the surface for purposes of the Concealed Conditions paragraph of these General Conditions.

11.6 **CONCEALED CONDITIONS.**

- A. The Department recognizes two types of concealed conditions which might be encountered during the performance of the Work, namely:
 - 1. Concealed conditions which are unascertainable from the plans, Contract Documents, visits to the site, or reasonable investigation, and which are at variance with the conditions indicated by the Contract Documents; or
 - 2. Unknown physical conditions below the surface of the ground of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract.
- B. The Contractor has seven (7) days after the first observance of the concealed condition to provide written notice to the Department.
- C. If the Department decides that either of the two concealed conditions described above in (A) has occurred during construction, then the Contract Sum shall be equitably adjusted by Change Order. No adjustment shall be made to the Contract Sum under this paragraph, however, for concealed conditions encountered during cutting and patching of Work.
- D. In the event that concealed or unknown conditions described above in (A) preclude either the Contractor or the Department from establishing either a methodology or a quantity of work to be priced into a Change Order before commencement and performance of Work, the Department reserves the right to do any of the following:
 - 1. If only the quantity of Work is unknown, the Department may issue a Change Order to perform work in a quantity established by the Department. The Department will monitor the actual quantities and, upon completion of the Work, issue a second Change Order to adjust the original quantity.
 - 2. If the Department deems that either the methodology and/or scope of the Change Order are indeterminable, the Department may issue an exploratory Change Order to determine the appropriate methodology and scope before issuing a follow-up Change Order to complete the Work. If the Department determines, after review of the results of the exploratory Change Order, that this Change Order was not successful in establishing the methodology or scope of work, the Department may opt for performing and monitoring the entire Change Order Work on a time and material force account basis. If the Department decides to proceed in this manner, the Contractor will be required to show proof of incurred cost as stipulated under the provisions of Change Order Administrative Procedure.

- 11.7 **NO CLAIMS FOR ADDITIONAL COST OR TIME.** No claims for increased costs, charges, expenses, or damages of any kind, except as provided in the General Conditions, shall be made by the Contractor against the Department for any delays or hindrances from any cause whatsoever, including, but not limited to, strikes, walkouts or work stoppages during the progress of any portion of the Work. The Department may, however, address such non-compensable delays by extending the time for completion of the Work, as provided in the Contract, which extensions shall constitute the exclusive remedy between the parties.

- 11.8 **MINOR CHANGES IN THE WORK.** The Department may direct minor changes in the Work (such as minor relocations or field revisions) that the Department and the Contractor mutually agree do not involve an adjustment in the Contract Sum or an extension of the Contract time and which are not inconsistent with the intent of the Contract Documents. Such changes may only be enacted by written Field Order, as provided, or by other written order. Such changes are binding on the Department and the Contractor. The Contractor shall carry out such Field Orders promptly.
- 11.9 **DIRECTIVE TO COMMENCE CHANGE ORDER WORK.** The Department may direct the Contractor to commence Change Order Work prior to a fully executed Change Order. Such direction will not be given until the Department generates the scope and confirms that funding is available to complete the Change Order Work.

ARTICLE 12: NON-CONFORMING WORK AND CORRECTIONS

- 12.1 **WORK COVERED CONTRARY TO REQUEST.** If any Work is covered contrary to the request of the Department or the Professional, the Work must, if required by the Department or the Professional, be uncovered for observation and replaced, at the Contractor's expense with no Extension of Time.
- 12.2 **UNCOVERING OF WORK.** If any Work has been covered which the Department, its designee or the Professional has not specifically requested to observe prior to being covered, the Department or Professional may request to see such Work and the Work shall be promptly uncovered by the Contractor.
- A. If such Work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall be charged to the Department by appropriate Change Order.
- B. If such Work is found to be not in accordance with the Contract Documents, the Contractor shall pay costs to make the Work conform and the cost of replacement, unless it is found that this condition was caused by another Prime Contractor. In that event, the Department shall pay the Contractor for such costs and will issue a credit Change Order for such costs from the responsible Prime Contractor(s).
- 12.3 **CORRECTION OF WORK REJECTED BY THE DEPARTMENT.** The Contractor shall promptly correct all Work rejected by the Department, its designee or the Professional as defective or as failing to conform to the Contract Documents. The correction must be implemented regardless of when such Work is observed and whether or not the Work was fabricated, installed or completed or whether such Work had been paid for by the Department. The Contractor shall bear all costs of correcting such rejected Work, including the cost of the Professional's additional services and any additional cost incurred by the Department and/or any other agency.
- 12.4 **CORRECTION OF WORK AFTER ACCEPTANCE.** If, after the date of Closeout Inspection and acceptance of all Work performed under the Contract, any of the Work is found to be defective or nonconforming, the Contractor shall correct such Work promptly after receipt of a written notice from the Department, unless the Department has previously given the Contractor a written acceptance of this specific condition. The Department should give such notice of rejection promptly after discovery of the condition. Approval or payment of an Application for Payment by the Department shall not constitute acceptance.

- 12.5 **CORRECTION AT NO COST TO THE DEPARTMENT.** All defective or nonconforming Work shall be promptly removed from the site, and the Work shall be corrected to comply with the Contract Documents without cost to the Department.
- 12.6 **COST OF DAMAGE TO OTHER CONTRACTORS' WORK.** The Contractor shall bear the cost of replacing all Work of any other Prime Contractor that is destroyed or damaged by the removal and/or correction of the Contractor's defective or non-conforming Work.
- 12.7 **FAILURE TO CORRECT DEFECTIVE OR NON-CONFORMING WORK.** If the Contractor does not remove such defective or nonconforming Work within the time set forth by the written notice from the Department, the Department may remove the defective or nonconforming Work and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days from the Department's request for payment, the Department may, upon ten (10) additional days written notice to the Contractor, sell such materials and/or equipment at auction or at private sale and, after deducting all the costs that should have been borne by the Contractor pursuant to the provisions of this paragraph, shall account for the net proceeds of the sale. If such proceeds of sale do not cover all costs that the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and/or the Contractor's surety shall pay the difference to the Department.
- 12.8 **INVESTIGATION BY THE DEPARTMENT.** The Department reserves the right, upon investigation of installation of defective and/or nonconforming Work, to note this situation in the Contractor Responsibility Program and may consider suspension of the Contractor in accordance with Section 531 of the Commonwealth Procurement Code. The Department may also, in its sole discretion, find the Prime Contractor in breach of its Contract and/or declare the Contractor in default of its Contract in accordance with the Termination Article of these General Conditions.
- 12.9 **ACCEPTANCE OF NONCONFORMING WORK.** If the Department knowingly elects to accept nonconforming work, it may do so instead of requiring its removal and correction. If nonconforming work is accepted, a credit Change Order shall be issued to reflect an appropriate reduction in the Contract Sum, or, if the amount is determined after final payment, it shall be paid by the Contractor and/or the Contractor's surety.
- 12.10 **DEPARTMENT'S RIGHT TO CARRY OUT THE WORK.** If the Contractor fails to carry out the Work in accordance with the Contract Documents or fails to perform any provision of the Contract, the Department may, after **seven (7) days** written notice to the Contractor, and without prejudice to any other remedy the Department may correct such failures. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such failures, including the cost of the Department's designee and the Professional's additional services made necessary by such failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and/or the Contractor's Surety shall pay the difference to the Department.
- 12.11 **OBLIGATIONS OF CONTRACTOR NOT LIMITED BY THIS ARTICLE.** The obligations of the Contractor under this Article are in addition to, and not in limitation of, any obligations imposed upon the Contractor by the Contract Documents or otherwise prescribed by Law.

ARTICLE 13: PAYMENTS AND COMPLETION

13.1 CONTRACT BREAKDOWN.

- A. The language in this Article must be construed in conjunction with the detailed language of the applicable Administrative Procedure.
- B. Within forty five (45) days of the Effective Date of the Contract and prior to the first Application for Payment, the Contractor shall submit for the Department's and the Professional's approval, a detailed Contract Breakdown Sheet, indicating values for line-items of the Work. The Contract Breakdown Sheet must provide the aggregate total Contract sum, divided to facilitate payments to Subcontractors. The Contract Breakdown Sheet of values shall be prepared on the form specified by the Department and supported by such data required by the Department to substantiate its correctness in accordance with the following:
 - 1. Each item in the Cost Breakdown shall include its proper share of overhead and profit.
 - 2. When more than one building or structure is included in the Contract, the Contractor shall submit a Contract Breakdown Sheet, indicating Unit Prices for all items of Work within the separate buildings or structures.
- C. This Cost Breakdown, when accepted by the Department, will be used as a basis for the Contractor's Application for Payments. This breakdown may also be used by the Department to determine the cost or credit to the Department resulting from the changes in the Work.

13.2 APPLICATION FOR PROGRESS PAYMENTS.

- A. During the progress of the Work, the Contractor shall prepare periodic estimates of the value of the Work performed and shall submit to the Department itemized Applications for Payment on the form specified by the Department. The applications shall be supported by data, as required by the Department, substantiating the Contractor's right to payment. The Professional and the Department will review and accept the application for validity.
- B. **STORED MATERIALS:** If upon the determination of the Department as to reasonableness, payments are to be made to the Contractor on account of materials or equipment which are not incorporated in the Work, but are delivered and suitably stored at the site, or at some other location agreed to in writing, such payments shall be conditioned upon submission by the Contractor of Bills of Sale forms provided by the Department to establish the Department's title to such materials or equipment. The Contractor shall remain responsible for all losses of materials and equipment that remain under its custody and control, regardless of the exclusions in insurance policies. Warranties do not begin until the date of final acceptance.

- ### **13.3 CONTRACTOR WARRANTS TITLE TO ALL WORK PASSES FREE OF LIENS.**
- The Contractor warrants and guarantees that title to all work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will pass to the Department upon final acceptance by the Department. The title shall be free and clear of all liens, claims, security interests or encumbrances (hereinafter referred to in this Paragraph as "liens"). The Contractor further guarantees that no work, materials or equipment covered by an Application for Payment was acquired by the Contractor, its employees, its Suppliers or its Subcontractors subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor, its employees, its Suppliers or its Subcontractors.

13.4 **NEITHER PAYMENT NOR OCCUPANCY CONSTITUTES ACCEPTANCE OF WORK NOT IN CONFORMANCE WITH CONTRACT DOCUMENTS.** Under no circumstances will any of the following occurrences constitute an acceptance of any Work not in accordance with the Contract Documents:

1. An approval of an application for a progress payment; or
2. Full or partial payment to the Contractor of any progress payment; or
3. Partial or entire use or occupancy of the Project by the Using Agency.

13.5 **PAYMENTS WITHHELD.**

A. The Department may decline to approve an Application for Payment in whole or in part if the Work has not progressed to the point indicated, or the quality and quantity of the Work is not in accordance with the Contract Documents. The Department and Professional may also decline to approve any Applications for Payment, because of subsequently discovered evidence or subsequent inspections, which may nullify the whole or any part of any Application for Payment previously issued to such extent as may be necessary in their opinion to protect the Department from loss because of deficiency items, including but not limited to:

1. Defective work not remedied; or
2. Third party claims or reasonable evidence indicating probable filing of third party claims by other Prime Contractors; or
3. Damages to another Prime Contractor; or
4. Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Sum; or
5. Reasonable indication that the Work will not be completed within the contract time; or
6. Unsatisfactory prosecution of the Work by the Contractor, or
7. Failure of the Contractor to maintain insurance.
8. Failure of the Contractor to properly submit the required Administrative submittals and forms, as required.

B. If the Department withholds payment from the Contractor for any of the aforementioned reasons, the Department will provide written notification to the Contractor of the reason for withholding payment within fifteen (15) days of the Department's receipt of the Application for Payment.

The Contractor may withhold payment from a Subcontractor, Supplier, or Manufacturer for a deficiency item. If payment is withheld from the Subcontractor, Supplier, or Manufacturer for such item, the Contractor must notify the Subcontractor, Supplier, or Manufacturer and the Department (including the Construction Manager if there is one retained on the Project) of the reason for the withholding within 15 days of the date after the Contractor receives the notice of deficiency item from the Department.

13.6 **PAYMENT MADE WHEN GROUNDS ARE RESOLVED.** When issues for withholding payments are resolved to the Department's satisfaction, payment shall be made to the Contractor for the amounts withheld. The grounds for withholding payment shall be considered resolved upon the Department's issuance of a letter indicating that the issue has been resolved.

- 13.7 **RETAINAGE.** On non-Small Business projects, the Department may retain a portion of the amount due the Contractor to ensure the proper performance of the Contract. In computing the amount payable in accordance with this Article on any current Application for Payment:
- A. **The Department may deduct and retain up to six percent (6%) of the then total Applications for Payments until fifty percent (50%) of the Work has been satisfactorily physically completed as determined by the Department. Satisfactory completion includes compliance with the Contract Documents, and meeting all Contract obligations.**
 - B. After fifty percent of the Contractor's Work is physically complete, the sum withheld by the Department shall not exceed three percent (3%) of the original Contract Sum. All money retained by the Department may be withheld from the Contractor until Substantial Completion of its Work.
- 13.8 **MONEY WITHHELD DUE TO CLAIMS OF ONE PRIME BASED ON DELAY OF ANOTHER CONTRACTOR.** In the event a dispute arises between the Department and any Prime Contractor, based upon increased costs claimed by one Prime Contractor occasioned by delays or other actions of another Prime Contractor, retainage in the sum of one and one-half (1-1/2) times the amount of any possible liability may be withheld from the Prime Contractor causing the additional claim. This amount shall be retained until such time as a final resolution is agreed to by all parties directly or indirectly involved, unless the Prime Contractor causing the additional claim furnishes a Bond satisfactory to the Department to indemnify the Department against the claim.
- 13.9 **DEPARTMENT DOES NOT MAKE PAYMENT.** If the Department fails to make payment to the Contractor within forty-five (45) days after receipt of an acceptable Application for Payment, the Contractor may file a claim for interest. No interest penalty payment shall be paid, however, if payment is made on or before the fifteenth (15th) calendar day after the payment due date. The Contractor is not entitled to stop work in any event, unless the Department exercises its right to suspend the work, as provided in these General Conditions. According to 62 Pa. C.S. §3938, as amended, this failure to pay provision shall not apply if:
- A. The General Assembly failed to enact a budget for the fiscal year of payment; or
 - B. The General Assembly failed to enact an operating budget for the fiscal year of payment or a capital budget for the capital project; or
 - C. The Federal, State, or local government failed to pay funds designated or to be designated for the specific project.
- 13.10 **WORK CANNOT BE COMPLETED THROUGH NO FAULT OF CONTRACTOR.** If , after Final Inspection, items of Work cannot be completed because of any of the following conditions:
- A. Unseasonable considerations, such as bituminous paving, landscaping, etc.; or
 - B. The Department agrees that particular items need not be completed until a subsequent date; or
 - C. The Department delays the approval of the Final Application for Payment for any unreasonable length of time, (reasonableness shall be determined by the Professional and the Department) the Department may agree to release payment to the Contractor. The payment shall be deducted by one and one-half (1-1/2) times the dollar value items on the punch list.

13.11 **Final Payment Not Due Until Conditions Met.** Neither the final payment nor the remaining retained percentage (if any) becomes due until the Contractor submits to the Department:

- A. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Department might in any way be responsible, have been paid or otherwise satisfied by the Contractor; and
- B. Statements from the Contractor's Surety Company and the Contractor's certificate on forms satisfactory to the Department as to Contractor's payment of all claims for labor, materials, equipment rentals and public utility services; and
- C. If required by the Department, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as is designated by the Department.

If any Subcontractor refuses to furnish a release or waiver, as required by the Department, the Contractor may furnish a Bond satisfactory to the Department to indemnify the Department against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Department all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

13.12 **RELEASE OF FUNDS IF DELAY IN FINAL INSPECTION NOT DUE TO THE CONTRACTOR'S FAULT.** If Final Inspection is materially delayed through no fault of the Contractor, the Department shall, upon certification by the Professional, make payment of the balance due for that portion of the Work fully completed and accepted by the Department. Such payment will not terminate the contract. If the remaining balance of Work not fully completed or corrected is less than the retainage, and, if performance and payment bonds have been furnished as required, the Contractor must submit to the Department, prior to certification of the payment, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted by the Department. Such payment shall be made under the terms and conditions governing final payment, except that it does not constitute a waiver of any of the Department's claims against the Contractor.

13.13 **FINAL PAYMENT AS WAIVER OF CLAIMS.** The making of final payment constitutes a waiver of all claims by the Department, **except** those arising from:

- A. Unsettled claims;
- B. Faulty, nonconforming or defective work or material;
- C. Failure of the work or material to comply with the requirements of the Contract Documents; or
- D. Terms of any special warranties and/or special guarantees required by the Contract Documents.

13.14 **ACCEPTANCE OF FINAL PAYMENT AS WAIVER OF CLAIMS.** The acceptance of final payment by the Contractor constitutes a waiver of all claims by the Contractor against the Department.

ARTICLE 14: PROJECT CLOSEOUT

- 14.1. **CLOSEOUT GENERALLY.** Project closeout consists of a Final Inspection which is deemed to be a significant activity considered to be a Project Milestone. During the Final Inspection, a Punch List of incomplete Work will be generated as discussed at length below. The Contractor must complete all Punch List items within 30 calendar days after Final Inspection. It is the Contractor's responsibility to request Final Inspection.
- 14.2. **FINAL INSPECTION.**
- A. Final Inspection occurs within fifteen (15) days from the receipt of a written request by the Contractor to the Department for a Final Inspection and an application for final payment. Final Inspection shall be conducted by the Department and the Professional. The Contractor or its authorized representative must be present throughout the duration of the Final Inspection.
1. The Department has the sole authority, in light of the Project's Scope of Work, to determine whether parts or the whole of the Project are ready for a Final Inspection.
- B. If the Department and the Professional concur that the Work is at substantial completion, the Professional shall issue a certificate of completion and a final certificate for payment. In such case, the Professional shall produce and deliver to the Contractor, at Final Inspection, a list of uncompleted items and a reasonable cost of completion (Punch List).
1. The Contractor shall complete all Punch List items within thirty (30) calendar days of Final Inspection.
 2. The Department will make payment in full within 45 days of the submission of the accepted final application except as set out in this Article, less one and one-half times the amount required to complete any then-remaining uncompleted minor items, which amount shall be certified by the Professional. Payment of any amount withheld for the completion of the Punch List shall be paid upon completion of the items in the Certificate.

ARTICLE 15: SUSPENSION

- 15.1. **SUSPENSION OF WORK DUE TO UNFAVORABLE CONDITIONS OR WEATHER.** If, in the judgment of the Department, the Contractor takes undue risk of damage to any part of the Project, including, but not limited to, soil compaction, foundation excavation, concrete placement or any exterior building construction by proceeding with the Work during unfavorable weather or other conditions (not relating to the fault of the Contractor or the convenience of the Department), the Department may issue a written notice of a temporary suspension of the Work for either the whole Contract or any part of the Contract, for such temporary period as the Department deems necessary. If the temporary suspension is due to unfavorable weather, the suspension may span the time period (days, weeks or months) encompassed by the unfavorable weather. In case of such suspension under this paragraph, a proper Extension of Time will be allowed for this excusable, non-compensatory delay, and the Contractor may not submit any claim for any expense or damages resulting from the suspension. The failure of the Department to suspend the Work does not relieve the Contractor of its responsibility to perform the Work in accordance with the Contract Documents.

- 15.2. **SUSPENSION OF WORK DUE TO FAULT OF CONTRACTOR.** If the Contractor fails to comply with the orders of the Department, the Professional or the Construction Manager relative to any particular parts of the Work, the Department may issue a written notice of a temporary suspension of the Work for either the whole Contract or any part of the Contract until the orders respecting the particular parts are complied with by the Contractor. In case of this type of suspension, which shall be considered due to the fault of the Contractor, no Extension of Time shall be given and the Contractor may not submit any claim for any expenses incurred by the Contractor during the suspension period. Further, the Contractor may be liable for any and all damages incurred by other Prime Contractors for due to the Contractor's actions.
- 15.3. **SUSPENSION OF WORK FOR THE CONVENIENCE OF THE DEPARTMENT.** The Department may issue a written notice of a temporary suspension of the Work for the convenience of the Department for either the whole Contract or any part of the Contract for such period of time as the Department may determine to be appropriate. This Paragraph does not apply to suspensions due to unfavorable weather or to suspensions due to Contractor's fault.
- A. If the performance of all or any part of the Work is suspended by the Department for an excessive period of time under this paragraph, an adjustment shall be made for any increase in the cost of performance of this Contract (excluding profit) necessarily caused by such excessive suspension. The Contract Sum shall be modified in writing accordingly. The Department will not pay any costs under this paragraph to the extent:
1. Performance would have been concurrently suspended by any other cause, including weather, or the fault or negligence of the Contractor; or
 2. An equitable adjustment for the time period encompassed within the suspension has been provided for or excluded under any other provision of this Contract.
- B. No claim for damages allegedly incurred under this paragraph shall be submitted under the Dispute Resolution Article unless the claim, in an amount stated, is asserted in writing within six months after the date of the Department's letter terminating the suspension.
- 15.4. **RESUMPTION OF WORK.** When the Department directs resumption of the Work under this Article, the Contractor shall resume full operations within ten (10) days after the date of the Department's letter terminating the suspension. The Department is not liable for any damages or anticipated profits on account of the Work being suspended, except as described in the Paragraph entitled Suspension of Work for Convenience of the Department. Suspensions of Work as outlined in this Article shall not automatically extend the Contract Completion Date. A request for an Extension of Time may be submitted by the Contractor, setting forth its reasons for the extension, which the Department will review in accordance with the Administrative Procedures governing Extensions of Time.

ARTICLE 16: TERMINATION OF CONTRACT

- 16.1. **TERMINATION FOR THE CONVENIENCE OF THE DEPARTMENT.** The Department may, at any time and for any reason, terminate this Contract. In such case, the Contractor shall be paid (and shall accept payment) for that portion of the entire Contract actually performed satisfactorily as of the date of termination. Termination costs shall not include any loss of anticipated profits. Disputes as to the sum payable to the Contractor shall be settled in accordance with the provisions of the Dispute Article of these General Conditions of the Contract.

- 16.2. **EFFECT OF TERMINATION FOR THE CONVENIENCE OF THE DEPARTMENT.** A termination for the convenience of the Department shall be effective in the manner and at the time specified in such notice and shall be without prejudice to any claims which the Department may have against the Contractor. Upon receipt of such notice from the Department the Contractor shall immediately discontinue all Work and the placing of all orders for materials and equipment, facilities and supplies in connection with the performance of this Contract. The Contractor shall promptly cancel all existing orders and terminate Work under all subcontracts so far as such orders and Work are chargeable to this Contract. The Contractor shall take such measures for the protection of the property of the Department, as may be directed by the Department. Upon termination of this Contract, as provided by this paragraph, full and complete adjustment and payment of all amounts due the Contractor arising out of this Contract as determined by an audit conducted by or for the Department, as soon as practicable after such termination shall be made as follows:
- A. The Department shall reimburse the Contractor for all costs incurred to date of termination, including reasonable overhead and expense for plant, made in the performance of this Contract, less amounts previously paid.
 - B. The Department shall also reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable due to the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontracts, etc.
 - C. The Department shall also reimburse the Contractor for the reasonable cost of providing protection of the property of the Department as directed by the termination letter.
 - D. The sum total of the payments made under this paragraph shall not exceed the total amount of the Contract, less payment previously made.
 - E. Title to all property accruing to the Department by reason of the termination of this Contract shall immediately vest in the Department and the Contractor will execute and deliver all papers necessary to transfer title to the Department.
 - F. Coincident with making final payment, the Contractor shall furnish the Department with a final release as provided in the Contract.
 - G. The Department shall be afforded full access to all books, correspondence, data and papers of the Contractor relating to this Contract in order to determine the amount due.
- 16.3. **CONTRACTOR'S DEFAULT.** If the Contractor:
- A. Persistently or repeatedly refuses or fails to supply sufficient properly skilled workmen or proper materials; or
 - B. Persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction over the Project; or
 - C. Fails to proceed as directed by the Department; or
 - D. Performs the Work unsuitably; or
 - E. Neglects or refuses to remove materials or replace rejected Work; or

- F. Discontinues the prosecution of the Work without approval of the Department; or
- G. Otherwise breaches any material provision of this Contract,

then the Department may, without prejudice to any of its other rights or remedies, give the Contractor and its Surety written notice that the Contractor has seven (7) days from the date of the Department's letter to cure the default. If the Contractor fails to cure the default within the specified time, the Department may terminate the Contract between the Department and the Contractor and may take possession of the site and of all materials and equipment, which has been paid for by the Department as of the date of termination. The Department may finish the Work by whatever method the Department may deem expedient. Upon termination, the Contractor is not entitled to receive any further payment until the Work is finished, at which time the Contractor shall be paid any excess remaining, in accordance with the Unpaid Contract Balance Paragraph below. The discretion to declare the Contractor in default rests solely with the Department. No party, whether bound by Contract to the Department or attempting to raise a third party relationship, which this Contract specifically precludes, may state a cause of action against the Department alleging the failure of the Department to exercise its discretion to terminate the Contractor.

- 16.4. **UNPAID CONTRACT BALANCE.** If the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for any Construction Manager's or Professional's Additional Services and any other damages that the Department has incurred in accordance with the Contract, such excess shall be paid to the Surety. If such costs exceed the unpaid balance, the Contractor or the surety or both shall pay the difference to the Department.
- 16.5. **SURETY REPLACEMENT OF CONTRACTOR.** If the Department terminates the Contractor, the surety will have thirty (30) days from the date of the termination letter to replace the terminated Contractor with a Completion Contractor that is acceptable to the Department. Any delay or other claims attributable the termination of the Contractor by other prime contractors will be the responsibility of the Surety to pay.
- 16.6. **SURETY'S FAILURE TO PROVIDE REPLACEMENT CONTRACTOR.** If the surety fails to provide an acceptable Contractor within thirty (30) days from the date of the termination letter, the Department may contract with a Contractor to complete the Work in accordance with the Contract Documents.
- 16.7. **DEPARTMENT'S RIGHT OF RECOVERY.** The Department will hold the Surety responsible for any additional cost incurred by the Department as a result of the Contractor's termination, including but not limited to, delay cost, acceleration cost, direct cost and consequential and incidental cost incurred by the Department or any other Prime Contractor.

ARTICLE 17: DISPUTES

- 17.1. **CONTRACTOR MUST CARRY ON WORK DURING THE DISPUTE PROCESS.** The Contractor may note that they are performing the Work under protest and may keep records of costs during the dispute resolution process but the Contractor shall not refuse to perform as directed by the Department. The Contractor must maintain the Project Schedule unless otherwise agreed to by the Department. If the Contractor fails or refuses to perform as directed, this action will constitute a breach of contract and the Department may default the Contractor and/or proceed to suspend and/or debar the Contractor.

17.2. **CONTRACTOR REQUEST FOR DGS TO WITHHOLD FUNDS DUE TO DAMAGE BY OTHER CONTRACTOR(S)**. With regard to any Work performed on the Project:

- A. If the Contractor, either itself or by its Subcontractor or Sub-subcontractors causes damage or injury to the property or Work of any Prime Contractor or Prime Contractors, or by failing to perform its Work (including Work of its Subcontractor or sub-subcontractors) with due diligence, delays any Prime Contractor or Prime Contractors, who suffer additional expense or damage as a result, the Department may, upon the receipt of a written request from the Prime Contractor who has suffered additional expense or damage, withhold from the Contractor sufficient funds to cover the damages which have been incurred by the other Prime Contractor in accordance with these General Conditions of the Contract.
- B. If the Department determines that the Prime Contractor submitting the claim is entitled to payment, the Department will process a credit change order for the amount of the damages due to the other Prime Contractor, and the Department will process a change order to the other Prime Contractor in that amount.
- C. If the Contractor disputes the amount of the damages or that it is responsible for them, the Contractor may present the issue to the dispute resolution process commencing with a FDR Meeting described above.
- D. It is agreed by all parties that disputes or actions between Prime Contractors concerning the additional expense or damage will not delay completion of the Work, which shall be continued by the parties, subject to the rights provided in these General Conditions.
- E. It is agreed by the parties to this Contract (the Department as promisee and the Contractor as promissor) that the intent of this Article is to benefit the other Prime Contractors on the Project or related projects and to serve as an indication of the mutual intent of the Department and the Contractor that this clause raise such other Prime Contractors to the status of intended third party beneficiaries of this Contract.

17.3. **ARBITRATION OF DISPUTES BETWEEN CONTRACTORS**. Contractors who have claims, disputes or other matters which arise out of, or are related to this Contract, or the breach which are between themselves and do not involve the Department may, at their option, submit such, claims, disputes or other matters to arbitration, in accordance with the construction industry arbitration rules of the American Arbitration Association then in effect, unless the parties mutually agree otherwise. This agreement to arbitrate is in consideration of the fact that all other Prime Contractors agree to this same arbitration provision, as provided in each separate Prime Contract required for the construction of this project, and is specifically enforceable under the Prevailing Arbitration Law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

- A. Notice of the demand for arbitration shall be filed in writing with the other Prime Contractors and with the Philadelphia or Pittsburgh, Pennsylvania, Regional Office of the American Arbitration Association. A copy of the demand shall be provided to the Department. The demand for arbitration shall be made within a reasonable time after the claim; dispute or other matter in question has arisen. The Department shall not be a party to the claim, dispute or other matter in question, but will be a witness in any arbitration at the request of any party to the arbitration.
- B. If the Contractors choose to submit the claim to arbitration, the Department shall not be a party to this arbitration nor shall such claim or dispute be subject to a Board of Claims proceeding.

- 17.4. **DISPUTE RESOLUTION IS A 3-STEP PROCESS.** The Contractor and the Department agree that any and all disputes arising out of this Contract are subject to a 3-step resolution process described in this Article. The Contractor and the Department agree that participation in each preceding step is a condition precedent to the Contractor's right to pursue any and all unresolved disputes to the next step.
- 17.5. **STEP 1: FIELD DISPUTE REVIEW MEETING.** The Field Dispute Review Meeting is the initial step in identifying and attempting to reach a timely and equitable resolution of the variety of issues that arise on any construction project. The nature and structure of each Field Dispute Review Meeting shall be flexible and consist of an informal, good-faith discussion of the current status of the Project, and identification of potential and actual disputes.
- A. **PROJECT INTERVALS:** A Field Dispute Review Meeting ("FDR Meeting") will be scheduled by the Construction Inspector Manager to discuss issues arising as of the following intervals of the Project:
1. 50% of the Contract Duration has elapsed; and
 2. 75% of the Contract Duration has elapsed; and
 3. 100% of the Contract Duration has elapsed; or
 4. At any time deemed necessary by the Department.
- B. **LOCATION:** The Department will schedule a mutually convenient date and time for each FDR Meeting. If possible, the FDR Meeting should be convened at the Project site.
- C. **ATTENDEES:** All Prime Contractors shall attend each Field Dispute Review Meeting. The Professional shall attend each Field Dispute Review Meeting. The Construction Inspectors shall also attend the Field Dispute Review Meeting. The Department will chair the Meeting.
- D. **PROCEDURE:** As the Project progresses and the time for a FDR Meeting approaches, the Department should establish the date for the meeting during the discussion at a bi-weekly Job Conference.
1. The Contractor must fill out a Field Dispute Review Meeting Form, a sample of which appears in the Disputes Administrative Procedure. This Form should be submitted to the Department and provided to the other Prime Contractors and the Professional approximately 1 week prior to the FDR meeting. The information on this Form should provide sufficient information to allow attendees to research potential disputes, review the Contract Documents, review the Project Schedule and examine site conditions prior to the Meeting. In all cases of misunderstanding and disputes, allegations that verbal instruction was given will not be considered. The Contractor must produce written documentation in support of its contentions and shall advance no claim in the absence of such written documentation, or use or attempt to use any conversation with any parties against the Professional or the Department, or in prosecuting any claim against the Professional or the Department.
 2. The Department shall convene the Field Dispute Review Meeting and, if necessary, ensure that attendees are introduced to each other.
 - a. The FDR Meeting shall not be subject to 2 Pa.C.S. (relating to administrative law and procedure).

- b. Neither audio recording nor videotaping will be allowed during the FDR Meeting.
 - c. No transcripts will be taken but attendees are free to take their own notes.
 - d. The Meeting may be moved out to the field for visual inspection of the condition if necessary to understand and resolve the issue.
 - e. The Department will allow all parties a reasonable time to present and discuss the disputes raised in the Prime Contractors' FDR Meeting Forms.
3. The Contractor's representative (an employee in the field familiar with the day-to-day work on this Contract) shall present a description of:
- a. The Work performed since the last Field Dispute Review Meeting; and
 - b. The Work to be performed in the near future; and
 - c. The status of disputes raised at the previous FDR Meeting; and
 - d. New disputes that have arisen since the previous FDR Meeting. For each new dispute:
 - i. Set forth the schedule impacts, which may only be presented using the current Project Schedule; and
 - ii. Set forth a proposed solution to the dispute, including:
 1. Days needed in any Extension of Time; and/or
 2. Damages attributed to the dispute; and'
 3. Identify the party the Contractor believes is responsible for creating the dispute.
4. The Department's representative and/or another Prime Contractor if so identified in 3(d)(ii)(3) above shall present a description of:
- a. their understanding of the Work performed since the last FDR Meetings; and
 - b. the Work to be performed in the near future; and
 - c. status of disputes raised at the previous FDR Meeting; and
 - d. a response to the new dispute(s) raised by the Contractor, including:
 - i. the Department's and/or the Contractor's view of the schedule impact, which may only be presented using the current Project Schedule; and
 - ii. the Department's and/or the Contractor's response to the original Contractor's proposed solution; and
 - iii. the identity of the party the Department and or the Contractor believes is responsible for creating the dispute.
5. Within two weeks of the FDR Meeting, the Department will render a written decision on the issues raised during the FDR Meeting. The decision will be issued to all attendees. The decision is not binding upon any party.
6. If any party is dissatisfied with the decision reached at the FDR Meeting, they may appeal the decision to the second step in the dispute process.

7. **Any issue or dispute arising on the Project must be presented at the first FDR Meeting after the dispute arose. If a Contractor fails to raise an issue at the appropriate FDR Meeting then the Contractor is deemed to have waived the issue (e.g., an issue arising during first 50% of contract duration must be presented at the 50% FDR Meeting and may not be presented at any subsequent FDR Meeting).**
 8. **Only claims raised during an FDR Meeting may be appealed to the Claim Conference stage.**
- 17.6. **STEP 2: CLAIM SETTLEMENT CONFERENCE.** The second step in the dispute resolution process is a Claim Settlement Conference, which is a more formal step in the process and is described in general in §1712.1 of the Commonwealth Procurement Code.
- A. **TIME TO FILE A CLAIM:** Under this second step of the process, a Contractor may appeal the FDR Meeting decision by submitting a written claim to the Deputy Secretary for Public Works, 18th & Herr Streets, Harrisburg, PA 17125.
 1. **Any issue or dispute arising on the Project that is not mutually resolved at the FDR Meeting stage may only be appealed to the Claim Settlement Conference stage. If the Contractor fails to pursue any unresolved FDR Meeting issue to a Claim Settlement Conference within the 6-month time frame set forth below, then the Contractor is deemed to have waived the issue.**
 2. **A claim accrues upon the date of the Department's written decision in Step 1. If the Contractor decides to appeal the decision reached at the FDR Meeting, the Contractor must file an appeal of the decision to the Deputy Secretary within six months of the date of the Department's written decision. If the Contractor fails to file a written request within this time period, the Contractor is deemed to have waived its right to assert the claim in any forum. The Deputy Secretary will disregard untimely claims.**
 - B. **CONTENTS OF THE CLAIM:** The claim filed by the Contractor with the Deputy Secretary shall state **all grounds** upon which the Contractor asserts a controversy exists. The claim must contain, at a minimum:
 1. The Claim Settlement Conference request form set forth in the Disputes Administrative Procedure; and
 2. The documentation submitted by the Contractor to the Department during the FDR Meeting to substantiate the Contractor's view of the issue; and
 3. The Department's decision.
 - C. **DATE OF THE CLAIM SETTLEMENT CONFERENCE:** The Deputy Secretary or a designee will schedule a mutually convenient date and time for the Claim Settlement Conference.
 - D. **ATTENDEES:** All parties identified in the Claim Packet or deemed necessary by the Department shall attend the Claim Settlement Conference. At a minimum, the Contractor, the Professional, and a representative from DGS' Bureau of Construction, designated by the DGS Director of Construction, shall attend the Claim Settlement Conference.
 - E. **PROCEDURE:** The Deputy Secretary or a designee will convene the Claim Settlement Conference.

1. The Claim Settlement Conference shall not be subject to 2 Pa.C.S. (relating to administrative law and procedure).
2. Neither audio recording nor videotaping will be allowed during the Claim Settlement Conference.
3. No transcripts will be taken but attendees are free to take their own notes.
4. The Deputy Secretary or a designee will allow all parties a reasonable time to present and discuss the issues.
5. The Contractor's representative shall present a description of the issue, including:
 - a. the factual background of the issue;
 - b. the schedule impacts, which may only be presented using the current Project Schedule; and
 - c. the proposed solution to the dispute, including:
 - i. days needed in any Extension of Time; and/or
 - ii. damages attributed to the dispute; and
 - iii. identify the party the Contractor believes is responsible for creating the dispute.
6. The Department's representative (or other Prime Contractor if so identified in 5c(iii) above) shall present a description of:
 - a. a response to the dispute(s) raised by the Contractor, including:
 - b. the Department's and/or the Contractor's view of the schedule impact, which may only be presented using the current Project Schedule; and
 - c. the Department's and/or the Contractor's response to the Contractor's proposed solution; and
 - d. the identity of the party the Department and/or the Contractor believes is responsible for creating the dispute.
7. The Deputy Secretary will render a final determination on the issue(s) raised during the Claim Settlement Conference within 120 days of the receipt of the claim by the Deputy Secretary. The parties may, during the 120 day period, mutually agree to extend the 120-day deadline. If extended, the Department will issue written confirmation of the extension. If no decision is rendered within the 120 days, the claim is deemed to be denied on the 120th day. The determination of the Deputy Secretary shall be the final order of the Department with regard to the issue(s).

17.7. **STEP 3: FILING A CLAIM AT THE BOARD OF CLAIMS.** The third step in the dispute resolution process is filing a Statement of Claim with the Board of Claims, which is a more formal step in the process and is described in general in §1712.1 and §1721 *et seq.* of the Commonwealth Procurement Code.

A. **TIME TO FILE A STATEMENT OF CLAIM.** Within fifteen (15) days of:

1. The mailing date of the Deputy Secretary's final determination denying a claim; or
2. Within 135 days of the date the Contractor files a claim with the Deputy Secretary if no final determination has been rendered and no extension has been agreed to, whichever occurs first, the Contractor may proceed to the third stage of the dispute resolution process by filing a claim with the Board of Claims in Harrisburg.

Only claims that were raised during a Claim Settlement Conference may proceed to the Board of Claims.

ARTICLE 18: COMMISSIONING

- 18.1. **SCOPE OF WORK.** If deemed necessary by the Department during design, commissioning shall consist of the coordination of activities to verify that all building systems (mechanical, electrical, security, fire alarm, etc.) have been installed and are operating in accordance with the requirements specified in the Contract Documents. This scope shall also include approved installation, start-up training, testing and performance of all building equipment and systems.
- 18.2. **PROCEDURE.**
- A. The specifications contain the commissioning specifications for each Contract.
 - B. Within 30 days after the Initial Job Conference, the Department's Commissioning Agent will provide the Commissioning Plan to all Prime Contractors. This plan shall clarify in detail the schedule and responsibilities for Work to be completed during commissioning of the Project.
 - C. The schedule set forth in the Commissioning Plan shall then be integrated into the Project Schedule by the first monthly update,
 - D. Final commissioning will begin upon written notice from any Prime Contractor to the Commissioning Agent (with a copy sent to the Department) that the system to be commissioned has been completed and is operational.
- 18.3. **PAYMENT FOR COMMISSIONING.**
- A. The HVAC (.2) Prime Contractor shall have a lump sum of 2% of the awarded contract value (or other percentage set forth by the Department in the specifications or during the bidding stage) retained as a distinct line item on the Cost Breakdown Sheet (GSC- 30) for Final Commissioning. If applicable, other Prime Contractors' commissioning retainage shall be as indicated in the specification.
 - B. Progress payments can be submitted for systems that have been commissioned and approved by the Commissioning Agent. The total of these progress payments shall not exceed ½ of the total percentage retained for Final Commissioning.
 - C. Progress payments for commissioning shall be apportioned *pro rata* based on the scheduled values of the systems or equipment to be commissioned. All Applications for Payment that request release of any amount of the total percentage retainage for Final Commissioning must be submitted for review by the Commissioning Agent.
 - D. The remaining ½ of the total percentage for the Final Commissioning retainage is payable upon completion of seasonal testing results approved by the Commissioning Agent. Seasonal testing will span two seasons, to assure that commissioning addresses peak heating and cooling operation.

ARTICLE 19: MISCELLANEOUS CONDITIONS

- 19.1. **PROJECT SIGN.** On or before the date of the first regularly scheduled Job Conference (after the Initial Job Conference), the Lead Contractor shall erect, at a prominent location (selected by the Department) a six-foot high by eight-foot wide (6'X 8') sign, well braced, and supported by 4"X 4" posts, identifying the Project under construction. The sign board may be constructed from weatherproof plywood, hardboard, or other smooth face material that will weather and remain intact throughout the Project. A three-inch (3") wood border shall frame the sign. The sign shall be placed with the eight-foot (8') dimension horizontal. The base color of the sign shall be white weatherproof flat paint with red border. Lettering shall be in fast blue block letters and shall conform to the following:

COMMONWEALTH OF PENNSYLVANIA (4" LETTERS MIN.)
THE DEPARTMENT OF GENERAL SERVICES (4" LETTERS MIN.)

[name], GOVERNOR (3" LETTERS MIN.)
[name], SECRETARY, DEPT. OF GENERAL SERVICES (3" LETTERS MIN.)
[name], SECRETARY, DEPT. OF (USING AGENCY) (3" LETTERS MIN.)

PROJECT NO. D.G.S. [number] (3" LETTERS MIN.)
[building name] (4" LETTERS MIN.)
[facility name] (3" LETTERS MIN.)

[name]...PROFESSIONAL (3" LETTERS MIN.)

[name]...GENERAL CONTRACTOR (3" LETTERS MIN.)
[name]...HEATING CONTRACTOR (3" LETTERS MIN.)
[name].. PLUMBING CONTRACTOR (3" LETTERS MIN.)
[name]... ELECTRICAL CONTRACTOR (3" LETTERS MIN.)

NOTE: For information shown in brackets Contractor shall check with the Regional Director's office for proper data.

Upon Completion of the work, or when directed by the Department, the Lead Contractor shall remove the sign.

The Contractor shall change the names provided on the sign should the individuals name change during the course of the project. This shall be done at no additional cost to the Department.

- 19.2. **FOUNDATIONS FOR MECHANICAL EQUIPMENT.** The HVAC, Plumbing and Electrical Contractors shall furnish and install foundations and supports for all equipment installed under their respective Contracts. Foundations and supports shall include isolation mounting for noisy and vibrating equipment. Each Contractor shall provide sufficient dowels or anchors in bases as required for equipment supplied under its Contract. Such foundations and supports shall not be those concrete slabs or that integral concrete construction noted and dimensioned on the architectural and structural drawings, which are considered the responsibility of the Contractor for General Construction.
- 19.3. **SANITARY FACILITIES.** The Lead Contractor shall, at its cost, provide and maintain in a clean and sanitary condition adequate and approved sanitary facilities in accordance with O.S.H.A. requirements. All facilities shall be screened against insects. When directed by the Department, the Contractor shall dismantle and remove these facilities and disinfect as required. Portable chemical toilets approved by the Pennsylvania Department of Health are acceptable. Under temporary field conditions, provisions shall be made to assure not less than one toilet facility is available.

- 19.4. **SANITARY FACILITIES AFTER LINES INSTALLED.** As soon as soil lines and water lines have been installed inside the building and tested successfully by the Plumbing Contractor, the Plumbing Contractor shall, at its cost, install two (2) lavatories and sufficient number of toilets according to the following table:

NUMBER OF WORKERS	MINIMUM NUMBER OF FACILITIES
20 or Less Workers	1
21 or More Workers	1 toilet seat and 1 urinal per 40
200 or More Workers	1 toilet seat and 1 urinal per 50

These shall be kept in working order by the Plumbing Contractor and in a clean and sanitary condition by the Lead Contractor. All supplies for these facilities shall be provided and restocked by the Lead Contractor.

- 19.5. **HOISTING FACILITIES.** The Contractor for General Construction shall erect, maintain and operate at its cost, hoisting facilities. In the event the hoisting facilities provided by the General Contractor are not available or are unable to accommodate the needs of other Prime Contractors, each Prime Contractor must provide hoisting facilities for its own work. All hoisting facilities must comply with the safety regulations of the Department of Labor and Industry.
- 19.6. **TEMPORARY VENTILATION.** The Contractor shall provide temporary ventilation to remove from the structure any excessive heat and/or humidity in enclosed portions of the Work, resulting from its construction operations so that the Work may be carried on without interruption and under correct conditions, including required dryness for installation of the various materials. Removing any dangerous or noxious fumes or particles suspended in the air is the responsibility of the Contractor whose construction operations caused these conditions to exist. Temporary equipment used for this temporary ventilation shall produce no hazard to the Work or to any person in or near it. The Contractor shall furnish all such temporary equipment; pay all costs for it and for its operation, including fuel and power supplies during operation both in and out of normal working hours. The Contractor shall remove the equipment when it is no longer required, or when so directed by the Department.
- 19.7. **WORK BEYOND LIMIT OF CONTRACT.** For purposes of performing the Work, the site is defined by the Limit of Contract lines shown on the drawings. The Contractor is responsible for any work performed beyond the limit of Contract.
- 19.8. **ADVERTISING.** No advertising is permitted within the Work area or adjacent area. This does not apply to corporate vehicles or attire.
- 19.9. **FEDERAL AND A.S.T.M. AND OTHER SPECIFICATIONS.** Reference to Federal, A.S.T.M. and other standard specifications references and designations means those in effect at the date of bid. Basic codes and regulations incorporated by reference, standard regulations and codes refer to editions in effect at the date of proposals, including current addenda or errata. The most stringent section of each code applies.
- 19.10. **STORAGE AND STOCKPILING ON ROOFS.** No materials of any type may be stored or stockpiled overnight on roofs.

- 19.11. **AUDIT OF RECORDS.** The Department may, at reasonable times and places, audit the books and records of the Contractor. The Contractor shall maintain books and records related to the Contract for a period of three (3) years from the date of final payment. The Contractor shall include a requirement in contracts with subcontractors or suppliers that requires the Subcontractor or Supplier to maintain its records for the same length of time.
- 19.12. **TEMPORARY TRAFFIC CONTROL.** The Project site may have active pedestrian, bike or automobile traffic adjacent to site for the entire duration of the Project. If applicable, the Contractors shall, incorporate, furnish and implement the following work as part of this Project.
- A. **TRAFFIC CONTROL – TEMPORARY TRAFFIC CONTROL GUIDELINES (PENNDOT PUBLICATION 213):** The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130 and Temporary Traffic Control Guidelines (PennDOT Publication 213) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.
- Publication 213 applies to Contractors; utilities; Federal, State, County, township and municipal governments; and others performing applicable construction, maintenance, emergency or utility/permit work on highways or so closely adjacent to a highway that workers, equipment or materials encroach on the highway or interfere with the normal movement of traffic.
- 19.13. **REDUCTION OF NOISE.** The Contractor must take reasonable steps to minimize noise and shall perform work in accordance with local noise ordinances. The Contractor shall perform noise-producing work in less sensitive hours of the day or week as directed by the Department. The Contractor shall maintain noise-producing work at or below the decibel levels and within the time periods specified and shall perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 6:00 p.m. unless otherwise permitted by the Department and permissible by local ordinance.
- 19.14. **VISIBLE DUST EMISSIONS.** No person shall perform any construction, demolition, excavation, extraction, or other earthmoving activities unless appropriate measures are sufficiently implemented to limit Visible Dust Emissions (VDE) to 20% opacity and comply with the conditions for a stabilized surface area when applicable. The Contractor shall apply sufficient water to building exterior surfaces, and/or unpaved surface areas where equipment will operate to limit VDE to 20% opacity throughout the duration of razing and demolition activities or handling, storage, and transport of bulk materials on-site or off-site. The Contractor shall apply sufficient dust suppressants to unpaved surface areas within 100 feet where materials from razing or demolition activities will fall in order to limit VDE to 20% opacity. The Contractor shall also apply sufficient dust suppressants to unpaved surface areas where wrecking or hauling equipment will be operated in order to limit VDE to 20% opacity.

ARTICLE 20: LEGAL MATTERS

- 20.1 **NO ESTOPPEL OR WAIVER OF LEGAL RIGHTS.** Neither the Department, its designee nor the Professional is precluded or estopped by the measurements or approved Applications for Payment made or given by the Department or the Professional or by any of their agents or employees, from showing the true and correct amount and character of the Work performed and materials and equipment furnished by the Contractor. The Department may show, at any time, that any such measurements or approved Applications for Payment are untrue or incorrectly made in any particular, or that the Work or materials, equipment or any parts thereof do not conform to the specifications and the Contract. The Department may reject the whole or any part of the aforesaid Work or materials and equipment if the measurements or approved Applications for Payment are found or become known to be inconsistent with the terms of the Contract, or otherwise improperly given. The Department may, notwithstanding any such measurements or approved Applications for Payment, demand and recover from the Contractor, its surety, or both, such damages as the Department may sustain by reason of the Contractor's failure to comply with the terms of the specifications and the Contract, or on account of any overpayments made on any approved Applications for Payment. Neither the acceptance by the Department or the Professional or any of their agents or employees, nor any certificate approved for payment of money, nor any payments for, nor acceptance of the whole or any part of the Work by the Department or the Professional, nor any Extension of Time, nor any position taken by the Department or the Professional or its employees, operates as a waiver of any portion of the Contract or any power herein reserved by the Department or any right to damages. A waiver of any breach of the Contract will not be held to be a waiver of any other or subsequent breach.
- 20.2 **LAW OF THE PLACE.** The Contract shall be governed by the Laws of the Commonwealth of Pennsylvania.
- 20.3 **SUCCESSORS AND ASSIGNS.** This Contract shall be binding on the parties hereto, their heirs, executors, administrators, successors and assigns. **No part of this Contract may be assigned by the Contractor without the prior written consent of the Department.**
- 20.4 **WRITTEN NOTICE.** Written notice is duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or mailed to its post office box address, if any, or addressed to the Contractor at its place of business as set forth in the Standard Form of Contract. Wherever the term "notice" is used, such notices, to be effective, shall be in writing and, if to the Department, shall be mailed by Certified or Registered mail, postage and fees prepaid, or shall be delivered, in person, to the Deputy Secretary for Public Works, Department of General Services, 18th & Herr Streets, Harrisburg, Pennsylvania 17125.
- 20.5 **CLAIMS FOR DAMAGES: LEGAL RELATIONS AND RESPONSIBILITIES.** Contracts covered by these General Conditions are not to be construed as being made for the benefit of any person or political subdivision not a party to this Contract, nor shall this Contract be construed to authorize any person or political subdivision, not a party to this Contract, to maintain any lawsuit hereunder, nor shall this Contract be construed to constitute the basis for the maintenance of any lawsuit by any person, or political subdivision not a party hereto.
- 20.6 **ROYALTIES AND PATENTS.** The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and shall hold the Department harmless from loss on account thereof.

- 20.7 **PERSONAL RESPONSIBILITY AND WORK OPPORTUNITY RECONCILIATION ACT.** Pursuant to the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (Act 58 of 1997, as amended), all employers are required to report information on newly-hired employees to a designated state agency. The Commonwealth of Pennsylvania has designated the Department of Labor and Industry as that agency. For information concerning this requirement call 1-888-PAHIREs.
- 20.8 **Public Works Employment Verification Act.** The Contractor is hereby notified that this contract is for a public work and the Contractor is therefore subject to the provisions, duties, obligations, remedies and penalties of the Public Works Employment Verification Act, 43 P.S. §§167.1-167.11, which is incorporated herein by reference as if fully set forth herein. Contractors subject to said Public Works Employment Verification Act are required to utilize the Federal E-Verify program to verify the employment eligibility of each new employee hired after January 1, 2013 and to submit to the Department a Commonwealth Public Works Employment Verification Form available on the Department's web site at www.dgs.state.pa.gov.
- 20.9 **Steel Products Procurement Act.** The Contractor is hereby notified that this contract is for a public work and the Contractor is therefore subject to the provisions, duties, obligations, remedies and penalties of the Steel Product Procurement Act, 73 P.S. §§1881-1887, as amended, which is incorporated herein by reference as if fully set forth herein. The Contractor must refer to the Department's web site at www.dgs.pa.gov for information regarding the Steel Products Procurement Act and the current list of exempt machinery and equipment steel products.
- 20.10 **PREVAILING MINIMUM WAGE PREDETERMINATION.** The Contractor is hereby notified that this Contract is subject to the provisions, duties, obligations, remedies and penalties of the Pennsylvania Prevailing Wage Act, 43 P.S. §165-1 et seq., as amended, which is incorporated herein by reference as if fully set forth herein. In compliance with said Pennsylvania Prevailing Wage Act, the Prevailing Minimum Wage Predetermination is hereto attached and made part hereof as approved by the Secretary of Labor and Industry. If a job classification is not covered by the Prevailing Wage Predetermination, the Contractor may not pay individuals in that classification less than the lowest rate for laborers, as set out in the predetermination.
- 20.11 **TOBACCO USE ON PROJECT SITE.** Use of tobacco products (smoke and smokeless) shall be restricted on site after the building has been enclosed (with permanent or temporary enclosures). Personnel found in noncompliance with this directive may be removed from the site upon discovery of this noncompliance.
- 20.12 **RIGHT-TO-KNOW LAW.**
- A. The Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104, ("RTKL") applies to this Contract. For the purpose of these provisions, the term "the Commonwealth" shall refer to the contracting Commonwealth agency.
- B. If the Commonwealth needs the Contractor's assistance in any matter arising out of the RTKL related to this Contract, it shall notify the Contractor using the legal contact information provided in this Contract. The Contractor, at any time, may designate a different contact for such purpose upon reasonable prior written notice to the Commonwealth.
- C. Upon written notification from the Commonwealth that it requires the Contractor's assistance in responding to a request under the RTKL for information related to this Contract that may be in the Contractor's possession, constituting, or alleged to constitute, a public record in accordance with the RTKL ("Requested Information"), the Contractor shall:

1. Provide the Commonwealth, within ten (10) calendar days after receipt of written notification, access to, and copies of, any document or information in the Contractor's possession arising out of this Contract that the Commonwealth reasonably believes is Requested Information and may be a public record under the RTKL; and
2. Provide such other assistance as the Commonwealth may reasonably request, in order to comply with the RTKL with respect to this Contract.

D. If the Contractor considers the Requested Information to include a request for a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, or other information that the Contractor considers exempt from production under the RTKL, the Contractor must notify the Commonwealth and provide, within seven (7) calendar days of receiving the written notification, a written statement signed by a representative of the Contractor explaining why the requested material is exempt from public disclosure under the RTKL.

E. The Commonwealth will rely upon the written statement from the Contractor in denying a RTKL request for the Requested Information unless the Commonwealth determines that the Requested Information is clearly not protected from disclosure under the RTKL. Should the Commonwealth determine that the Requested Information is clearly not exempt from disclosure, the Contractor shall provide the Requested Information within five (5) business days of receipt of written notification of the Commonwealth's determination.

F. If the Contractor fails to provide the Requested Information within the time period required by these provisions, the Contractor shall indemnify and hold the Commonwealth harmless for any damages, penalties, costs, detriment or harm that the Commonwealth may incur as a result of the Contractor's failure, including any statutory damages assessed against the Commonwealth.

G. The Commonwealth will reimburse the Contractor for any costs associated with complying with these provisions only to the extent allowed under the fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.

H. The Contractor may file a legal challenge to any Commonwealth decision to release a record to the public with the Office of Open Records, or in the Pennsylvania Courts, however, the Contractor shall indemnify the Commonwealth for any legal expenses incurred by the Commonwealth as a result of such a challenge and shall hold the Commonwealth harmless for any damages, penalties, costs, detriment or harm that the Commonwealth may incur as a result of the Contractor's failure, including any statutory damages assessed against the Commonwealth, regardless of the outcome of such legal challenge. As between the parties, the Contractor agrees to waive all rights or remedies that may be available to it as a result of the Commonwealth's disclosure of Requested Information pursuant to the RTKL.

I. The Contractor's duties relating to the RTKL are continuing duties that survive the expiration of this Contract and shall continue as long as the Contractor has Requested Information in its possession.

20.13 **Non-Appropriation Clause**

A. The Commonwealth's obligation to make payments during any Commonwealth fiscal year succeeding the current fiscal year shall be subject to availability and appropriation of funds. When funds(state and/or federal) are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal year period, the Commonwealth shall have the right to terminate the Contract or a Purchase Order. The Contractor shall be reimbursed for the reasonable value of any nonrecurring costs incurred but not amortized in the price of the supplies or services delivered under the Contract. Such reimbursement shall not include loss of profit, loss of use of money, or administrative or overhead costs. The reimbursement amount may be paid for any appropriations available for that purpose.

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**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project Name:	PA Judicial Center 6th & 8th Floor Renovations
Awarding Agency:	Administrative Office of Pennsylvania Courts
Contract Award Date:	4/24/2018
Serial Number:	18-02123
Project Classification:	Building
Determination Date:	3/20/2018
Assigned Field Office:	Harrisburg
Field Office Phone Number:	(717)787-4763
Toll Free Phone Number:	(800)932-0665
Project County:	Dauphin County

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	6/26/2017		\$32.00	\$26.51	\$58.51
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2018		\$29.52	\$18.22	\$47.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2017		\$28.52	\$18.22	\$46.74
Boilermakers	3/1/2018		\$45.89	\$33.73	\$79.62
Boilermakers	1/1/2018		\$46.26	\$33.36	\$79.62
Boilermakers	1/1/2017		\$44.26	\$33.36	\$77.62
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2020		\$33.99	\$17.31	\$51.30
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2021		\$34.62	\$17.78	\$52.40
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2019		\$33.43	\$16.87	\$50.30
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2017		\$32.54	\$16.06	\$48.60
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2018		\$32.95	\$16.45	\$49.40
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2017		\$28.88	\$15.75	\$44.63
Cement Finishers	5/1/2017		\$27.20	\$22.45	\$49.65
Drywall Finisher	5/1/2017		\$23.30	\$12.39	\$35.69
Electricians	6/1/2018		\$29.75	\$24.44	\$54.19
Electricians	6/1/2017		\$30.00	\$23.06	\$53.06
Elevator Constructor	1/1/2018		\$45.35	\$33.00	\$78.35
Glazier	5/1/2020		\$25.63	\$12.95	\$38.58
Glazier	5/1/2017		\$25.63	\$11.45	\$37.08
Glazier	5/1/2021		\$25.63	\$13.45	\$39.08
Glazier	5/1/2019		\$25.63	\$12.45	\$38.08
Glazier	5/1/2018		\$25.63	\$11.95	\$37.58
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2017		\$31.33	\$28.42	\$59.75
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2019		\$33.76	\$28.42	\$62.18
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2018		\$32.53	\$28.42	\$60.95
Laborers (Class 01 - See notes)	5/1/2018		\$21.31	\$13.93	\$35.24
Laborers (Class 01 - See notes)	5/1/2017		\$20.86	\$13.33	\$34.19
Laborers (Class 01 - See notes)	5/1/2019		\$21.76	\$14.53	\$36.29
Laborers (Class 01 - See notes)	5/1/2020		\$22.21	\$15.13	\$37.34
Laborers (Class 02 - See notes)	5/1/2017		\$22.86	\$13.33	\$36.19
Laborers (Class 02 - See notes)	5/1/2018		\$23.31	\$13.93	\$37.24
Laborers (Class 02 - See notes)	5/1/2020		\$24.21	\$15.13	\$39.34
Laborers (Class 02 - See notes)	5/1/2019		\$23.76	\$14.53	\$38.29
Laborers (Class 03 - See notes)	5/1/2018		\$24.81	\$14.22	\$39.03
Laborers (Class 03 - See notes)	5/1/2017		\$24.31	\$13.62	\$37.93
Laborers (Class 03 - See notes)	5/1/2020		\$24.21	\$15.13	\$39.34
Laborers (Class 03 - See notes)	5/1/2019		\$25.36	\$14.71	\$40.07

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 04 - See notes)	5/1/2019		\$26.86	\$14.82	\$41.68
Laborers (Class 04 - See notes)	5/1/2020		\$24.21	\$15.13	\$39.34
Laborers (Class 04 - See notes)	5/1/2017		\$25.81	\$13.62	\$39.43
Laborers (Class 04 - See notes)	5/1/2018		\$26.31	\$14.22	\$40.53
Laborers (Class 05 - See notes)	5/1/2017		\$26.31	\$13.62	\$39.93
Laborers (Class 05 - See notes)	5/1/2019		\$27.36	\$14.82	\$42.18
Laborers (Class 05 - See notes)	5/1/2020		\$24.21	\$15.13	\$39.34
Laborers (Class 05 - See notes)	5/1/2018		\$26.81	\$14.22	\$41.03
Laborers (Class 06 - See notes)	5/1/2018		\$23.31	\$13.93	\$37.24
Laborers (Class 06 - See notes)	5/1/2020		\$24.21	\$15.13	\$39.34
Laborers (Class 06 - See notes)	5/1/2019		\$23.76	\$14.53	\$38.29
Laborers (Class 06 - See notes)	5/1/2017		\$22.86	\$13.33	\$36.19
Marble Mason	5/1/2017		\$29.27	\$15.62	\$44.89
Marble Mason	5/1/2020		\$31.02	\$16.87	\$47.89
Marble Mason	5/1/2018		\$29.88	\$16.01	\$45.89
Marble Mason	5/1/2019		\$30.46	\$16.43	\$46.89
Marble Mason	5/1/2021		\$31.55	\$17.34	\$48.89
Millwright	5/1/2017		\$33.79	\$18.16	\$51.95
Operators (Building, Class 01 - See Notes)	5/1/2021		\$41.41	\$26.40	\$67.81
Operators (Building, Class 01 - See Notes)	5/1/2017		\$35.24	\$24.58	\$59.82
Operators (Building, Class 01 - See Notes)	5/1/2020		\$39.87	\$25.94	\$65.81
Operators (Building, Class 01 - See Notes)	5/1/2018		\$36.78	\$25.03	\$61.81
Operators (Building, Class 01 - See Notes)	5/1/2019		\$38.32	\$25.49	\$63.81
Operators (Building, Class 01A - See Notes)	5/1/2020		\$42.12	\$26.60	\$68.72
Operators (Building, Class 01A - See Notes)	5/1/2021		\$43.66	\$27.06	\$70.72
Operators (Building, Class 01A - See Notes)	5/1/2019		\$40.57	\$26.15	\$66.72
Operators (Building, Class 01A - See Notes)	5/1/2017		\$37.49	\$25.23	\$62.72
Operators (Building, Class 01A - See Notes)	5/1/2018		\$39.03	\$25.69	\$64.72
Operators (Building, Class 02 - See Notes)	5/1/2017		\$34.96	\$24.49	\$59.45
Operators (Building, Class 02 - See Notes)	5/1/2020		\$39.59	\$25.84	\$65.43
Operators (Building, Class 02 - See Notes)	5/1/2021		\$41.13	\$26.30	\$67.43
Operators (Building, Class 02 - See Notes)	5/1/2018		\$36.50	\$24.95	\$61.45
Operators (Building, Class 02 - See Notes)	5/1/2019		\$38.05	\$25.39	\$63.44
Operators (Building, Class 02A - See Notes)	5/1/2021		\$43.38	\$26.98	\$70.36
Operators (Building, Class 02A - See Notes)	5/1/2018		\$38.75	\$25.61	\$64.36
Operators (Building, Class 02A - See Notes)	5/1/2017		\$37.21	\$25.16	\$62.37
Operators (Building, Class 02A - See Notes)	5/1/2019		\$40.30	\$26.06	\$66.36
Operators (Building, Class 03 - See Notes)	5/1/2021		\$38.41	\$25.50	\$63.91
Operators (Building, Class 03 - See Notes)	5/1/2017		\$32.23	\$23.68	\$55.91
Operators (Building, Class 03 - See Notes)	5/1/2020		\$36.86	\$25.05	\$61.91
Operators (Building, Class 03 - See Notes)	5/1/2018		\$33.78	\$24.12	\$57.90
Operators (Building, Class 03 - See Notes)	5/1/2019		\$35.32	\$24.59	\$59.91
Operators (Building, Class 04 - See Notes)	5/1/2020		\$35.73	\$24.71	\$60.44
Operators (Building, Class 04 - See Notes)	5/1/2021		\$37.26	\$25.18	\$62.44

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building, Class 04 - See Notes)	5/1/2017		\$30.33	\$22.12	\$52.45
Operators (Building, Class 04 - See Notes)	5/1/2018		\$32.63	\$23.80	\$56.43
Operators (Building, Class 04 - See Notes)	5/1/2019		\$34.17	\$24.27	\$58.44
Operators (Building, Class 05 - See Notes)	5/1/2020		\$35.28	\$24.59	\$59.87
Operators (Building, Class 05 - See Notes)	5/1/2018		\$32.18	\$23.69	\$55.87
Operators (Building, Class 05 - See Notes)	5/1/2017		\$29.87	\$21.99	\$51.86
Operators (Building, Class 05 - See Notes)	5/1/2019		\$33.73	\$24.14	\$57.87
Operators (Building, Class 05 - See Notes)	5/1/2021		\$36.82	\$25.04	\$61.86
Operators (Building, Class 06 - See Notes)	5/1/2017		\$29.00	\$21.72	\$50.72
Operators (Building, Class 06 - See Notes)	5/1/2018		\$31.31	\$23.41	\$54.72
Operators (Building, Class 06 - See Notes)	5/1/2020		\$34.40	\$24.32	\$58.72
Operators (Building, Class 06 - See Notes)	5/1/2021		\$35.95	\$24.77	\$60.72
Operators (Building, Class 06 - See Notes)	5/1/2019		\$32.86	\$23.86	\$56.72
Operators (Building, Class 07A- See Notes)	5/1/2019		\$46.15	\$29.22	\$75.37
Operators (Building, Class 07A- See Notes)	5/1/2017		\$42.44	\$28.13	\$70.57
Operators (Building, Class 07A- See Notes)	5/1/2018		\$44.29	\$28.68	\$72.97
Operators (Building, Class 07A- See Notes)	5/1/2020		\$48.00	\$29.77	\$77.77
Operators (Building, Class 07A- See Notes)	5/1/2021		\$49.86	\$30.31	\$80.17
Operators (Building, Class 07B- See Notes)	5/1/2020		\$47.65	\$29.67	\$77.32
Operators (Building, Class 07B- See Notes)	5/1/2021		\$49.51	\$30.20	\$79.71
Operators (Building, Class 07B- See Notes)	5/1/2019		\$45.80	\$29.12	\$74.92
Operators (Building, Class 07B- See Notes)	5/1/2017		\$42.09	\$28.03	\$70.12
Operators (Building, Class 07B- See Notes)	5/1/2018		\$43.95	\$28.58	\$72.53
Painters Class 1 (see notes)	5/1/2017		\$23.47	\$13.32	\$36.79
Painters Class 2 (see notes)	5/1/2017		\$25.60	\$13.32	\$38.92
Painters Class 3 (see notes)	5/1/2017		\$31.35	\$13.32	\$44.67
Pile Driver Divers (Building, Heavy, Highway)	1/1/2016		\$48.10	\$17.37	\$65.47
Pile Driver Divers (Building, Heavy, Highway)	1/1/2017		\$49.13	\$17.95	\$67.08
Piledrivers	1/1/2019		\$34.30	\$19.30	\$53.60
Piledrivers	1/1/2018		\$33.55	\$18.55	\$52.10
Plasterers	5/1/2017		\$25.03	\$20.58	\$45.61
Plumber/Pipefitter	5/1/2017		\$35.82	\$24.51	\$60.33
Roofers (Composition)	5/1/2017		\$36.15	\$30.22	\$66.37
Roofers (Shingle)	5/1/2016		\$25.70	\$19.17	\$44.87
Roofers (Slate & Tile)	5/1/2016		\$28.70	\$19.17	\$47.87
Roofers (Slate & Tile)	5/1/2016		\$28.70	\$19.17	\$47.87
Sheet Metal Workers	6/1/2016		\$33.60	\$33.43	\$67.03
Sheet Metal Workers	6/1/2017		\$33.98	\$35.40	\$69.38
Sprinklerfitters	4/1/2017		\$37.40	\$21.74	\$59.14
Sprinklerfitters	4/1/2018		\$38.80	\$22.74	\$61.54
Terrazzo Finisher	5/1/2018		\$32.35	\$15.91	\$48.26
Terrazzo Finisher	5/1/2019		\$33.04	\$16.22	\$49.26
Terrazzo Finisher	5/1/2017		\$31.64	\$15.62	\$47.26
Terrazzo Setter	5/1/2017		\$30.63	\$18.85	\$49.48

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Terrazzo Setter	5/1/2019		\$31.81	\$19.67	\$51.48
Terrazzo Setter	5/1/2018		\$31.23	\$19.25	\$50.48
Tile & Marble Finisher	5/1/2018		\$27.60	\$14.15	\$41.75
Tile & Marble Finisher	5/1/2017		\$26.89	\$13.86	\$40.75
Tile & Marble Finisher	5/1/2021		\$29.61	\$15.14	\$44.75
Tile & Marble Finisher	5/1/2019		\$28.29	\$14.46	\$42.75
Tile & Marble Finisher	5/1/2020		\$28.96	\$14.79	\$43.75
Tile Setter	5/1/2019		\$30.46	\$16.43	\$46.89
Tile Setter	5/1/2020		\$31.02	\$16.87	\$47.89
Tile Setter	5/1/2017		\$29.27	\$15.62	\$44.89
Tile Setter	5/1/2018		\$29.88	\$16.01	\$45.89
Tile Setter	5/1/2021		\$31.55	\$17.34	\$48.89
Truckdriver class 1(see notes)	5/1/2019		\$36.12	\$0.00	\$36.12
Truckdriver class 1(see notes)	5/1/2018		\$35.32	\$0.00	\$35.32
Truckdriver class 1(see notes)	5/1/2017		\$34.47	\$0.00	\$34.47
Truckdriver class 2 (see notes)	5/1/2019		\$36.19	\$0.00	\$36.19
Truckdriver class 2 (see notes)	5/1/2018		\$35.39	\$0.00	\$35.39
Truckdriver class 2 (see notes)	5/1/2017		\$34.54	\$0.00	\$34.54
Truckdriver class 3 (see notes)	5/1/2019		\$36.68	\$0.00	\$36.68
Truckdriver class 3 (see notes)	5/1/2018		\$35.88	\$0.00	\$35.88
Truckdriver class 3 (see notes)	5/1/2017		\$35.03	\$0.00	\$35.03

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenters	5/1/2017		\$30.12	\$15.34	\$45.46
Cement Finishers	5/1/2016		\$26.40	\$22.35	\$48.75
Electric Lineman	5/29/2017		\$44.22	\$23.94	\$68.16
Electric Lineman	5/27/2019		\$46.32	\$25.97	\$72.29
Electric Lineman	5/28/2018		\$45.25	\$24.94	\$70.19
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2018		\$32.53	\$28.42	\$60.95
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2017		\$31.33	\$28.42	\$59.75
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2019		\$33.76	\$28.42	\$62.18
Laborers (Class 01 - See notes)	5/1/2016		\$19.81	\$15.79	\$35.60
Laborers (Class 01 - See notes)	5/1/2018		\$20.96	\$16.79	\$37.75
Laborers (Class 01 - See notes)	5/1/2017		\$20.36	\$16.29	\$36.65
Laborers (Class 01 - See notes)	5/1/2019		\$21.61	\$17.29	\$38.90
Laborers (Class 02 - See notes)	5/1/2017		\$26.98	\$16.29	\$43.27
Laborers (Class 02 - See notes)	5/1/2019		\$28.23	\$17.29	\$45.52
Laborers (Class 02 - See notes)	5/1/2018		\$27.58	\$16.79	\$44.37
Laborers (Class 02 - See notes)	5/1/2016		\$26.43	\$15.79	\$42.22
Laborers (Class 03 - See notes)	5/1/2018		\$24.57	\$16.79	\$41.36
Laborers (Class 03 - See notes)	5/1/2019		\$25.22	\$17.29	\$42.51
Laborers (Class 03 - See notes)	5/1/2016		\$23.42	\$15.79	\$39.21
Laborers (Class 03 - See notes)	5/1/2017		\$23.97	\$16.29	\$40.26
Laborers (Class 04 - See notes)	5/1/2018		\$24.92	\$16.79	\$41.71
Laborers (Class 04 - See notes)	5/1/2019		\$25.57	\$17.29	\$42.86
Laborers (Class 04 - See notes)	5/1/2016		\$23.77	\$15.79	\$39.56
Laborers (Class 04 - See notes)	5/1/2017		\$24.32	\$16.29	\$40.61
Laborers (Class 05 - See notes)	5/1/2018		\$25.59	\$16.79	\$42.38
Laborers (Class 05 - See notes)	5/1/2016		\$24.44	\$15.79	\$40.23
Laborers (Class 05 - See notes)	5/1/2017		\$24.99	\$16.29	\$41.28
Laborers (Class 05 - See notes)	5/1/2019		\$26.24	\$17.29	\$43.53
Laborers (Class 06 - See notes)	5/1/2016		\$23.86	\$15.79	\$39.65
Laborers (Class 06 - See notes)	5/1/2017		\$24.41	\$16.29	\$40.70
Laborers (Class 06 - See notes)	5/1/2018		\$25.01	\$16.79	\$41.80
Laborers (Class 06 - See notes)	5/1/2019		\$25.66	\$17.29	\$42.95
Laborers (Class 07 - See notes)	5/1/2019		\$25.95	\$17.29	\$43.24
Laborers (Class 07 - See notes)	5/1/2018		\$25.30	\$16.79	\$42.09
Laborers (Class 07 - See notes)	5/1/2017		\$24.70	\$16.29	\$40.99
Laborers (Class 07 - See notes)	5/1/2016		\$24.15	\$15.79	\$39.94
Laborers (Class 08 - See notes)	5/1/2018		\$25.78	\$16.79	\$42.57
Laborers (Class 08 - See notes)	5/1/2019		\$26.43	\$17.29	\$43.72
Laborers (Class 08 - See notes)	5/1/2017		\$25.18	\$16.29	\$41.47
Laborers (Class 08 - See notes)	5/1/2016		\$24.63	\$15.79	\$40.42
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2017		\$30.60	\$23.21	\$53.81
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2020		\$35.23	\$24.57	\$59.80

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2021		\$36.78	\$25.03	\$61.81
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2019		\$33.69	\$24.11	\$57.80
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2018		\$32.15	\$23.66	\$55.81
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2017		\$29.47	\$22.88	\$52.35
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2018		\$31.01	\$23.32	\$54.33
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2021		\$35.64	\$24.69	\$60.33
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2020		\$33.65	\$24.11	\$57.76
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2019		\$32.55	\$23.78	\$56.33
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2019		\$32.11	\$23.65	\$55.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2020		\$33.65	\$24.11	\$57.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2021		\$35.20	\$24.56	\$59.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2017		\$29.02	\$22.74	\$51.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2018		\$30.56	\$23.20	\$53.76
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2020		\$32.78	\$23.84	\$56.62
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2021		\$34.31	\$24.31	\$58.62
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2019		\$31.22	\$23.40	\$54.62
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2017		\$28.14	\$22.49	\$50.63
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2018		\$29.68	\$22.93	\$52.61
Operators (Heavy, Class 01 - See Notes)	5/1/2020		\$38.44	\$25.52	\$63.96
Operators (Heavy, Class 01 - See Notes)	5/1/2021		\$39.98	\$25.97	\$65.95
Operators (Heavy, Class 01 - See Notes)	5/1/2019		\$36.90	\$25.06	\$61.96
Operators (Heavy, Class 01 - See Notes)	5/1/2017		\$33.80	\$24.16	\$57.96
Operators (Heavy, Class 01 - See Notes)	5/1/2018		\$35.35	\$24.61	\$59.96
Operators (Heavy, Class 01A - See Notes)	5/1/2020		\$40.69	\$26.19	\$66.88
Operators (Heavy, Class 01A - See Notes)	5/1/2021		\$42.24	\$26.64	\$68.88
Operators (Heavy, Class 01A - See Notes)	5/1/2019		\$39.14	\$25.73	\$64.87
Operators (Heavy, Class 01A - See Notes)	5/1/2017		\$36.05	\$24.82	\$60.87
Operators (Heavy, Class 01A - See Notes)	5/1/2018		\$37.60	\$25.27	\$62.87
Operators (Heavy, Class 02 - See Notes)	5/1/2020		\$38.16	\$25.44	\$63.60
Operators (Heavy, Class 02 - See Notes)	5/1/2021		\$39.70	\$25.89	\$65.59
Operators (Heavy, Class 02 - See Notes)	5/1/2019		\$36.61	\$24.98	\$61.59
Operators (Heavy, Class 02 - See Notes)	5/1/2017		\$33.52	\$24.07	\$57.59
Operators (Heavy, Class 02 - See Notes)	5/1/2018		\$35.07	\$24.52	\$59.59
Operators (Heavy, Class 02A - See Notes)	5/1/2020		\$40.41	\$26.10	\$66.51
Operators (Heavy, Class 02A - See Notes)	5/1/2021		\$41.95	\$26.56	\$68.51
Operators (Heavy, Class 02A - See Notes)	5/1/2019		\$38.87	\$25.64	\$64.51
Operators (Heavy, Class 02A - See Notes)	5/1/2017		\$35.78	\$24.72	\$60.50
Operators (Heavy, Class 02A - See Notes)	5/1/2018		\$37.32	\$25.19	\$62.51
Operators (Heavy, Class 07A - See Notes)	5/1/2020		\$46.28	\$29.27	\$75.55
Operators (Heavy, Class 07A - See Notes)	5/1/2021		\$48.14	\$29.83	\$77.97
Operators (Heavy, Class 07A - See Notes)	5/1/2019		\$44.43	\$28.73	\$73.16
Operators (Heavy, Class 07A - See Notes)	5/1/2017		\$40.73	\$27.63	\$68.36
Operators (Heavy, Class 07A - See Notes)	5/1/2018		\$42.58	\$28.18	\$70.76
Operators (Heavy, Class 07B - See Notes)	5/1/2020		\$45.94	\$29.17	\$75.11

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Heavy, Class 07B - See Notes)	5/1/2021		\$47.79	\$29.71	\$77.50
Operators (Heavy, Class 07B - See Notes)	5/1/2019		\$44.09	\$28.63	\$72.72
Operators (Heavy, Class 07B - See Notes)	5/1/2017		\$40.38	\$27.53	\$67.91
Operators (Heavy, Class 07B - See Notes)	5/1/2018		\$42.23	\$28.09	\$70.32
Operators (Highway, Class 01 - See Notes)	5/1/2017		\$32.93	\$23.87	\$56.80
Operators (Highway, Class 01 - See Notes)	5/1/2016		\$32.16	\$22.64	\$54.80
Operators (Highway, Class 01 - See Notes)	5/1/2020		\$37.56	\$25.24	\$62.80
Operators (Highway, Class 01 - See Notes)	5/1/2021		\$39.10	\$25.70	\$64.80
Operators (Highway, Class 01 - See Notes)	5/1/2018		\$34.47	\$24.33	\$58.80
Operators (Highway, Class 01 - See Notes)	5/1/2019		\$36.02	\$24.79	\$60.81
Operators (Highway, Class 01a - See Notes)	5/1/2019		\$38.27	\$25.46	\$63.73
Operators (Highway, Class 01a - See Notes)	5/1/2020		\$39.81	\$25.92	\$65.73
Operators (Highway, Class 01a - See Notes)	5/1/2021		\$41.35	\$26.38	\$67.73
Operators (Highway, Class 01a - See Notes)	5/1/2017		\$35.18	\$24.56	\$59.74
Operators (Highway, Class 01a - See Notes)	5/1/2018		\$36.72	\$25.01	\$61.73
Operators (Highway, Class 02 - See Notes)	5/1/2019		\$34.84	\$24.44	\$59.28
Operators (Highway, Class 02 - See Notes)	5/1/2020		\$36.38	\$24.90	\$61.28
Operators (Highway, Class 02 - See Notes)	5/1/2021		\$37.93	\$25.35	\$63.28
Operators (Highway, Class 02 - See Notes)	5/1/2018		\$33.30	\$23.98	\$57.28
Operators (Highway, Class 02 - See Notes)	5/1/2017		\$31.75	\$23.53	\$55.28
Operators (Highway, Class 02 - See Notes)	5/1/2016		\$30.98	\$22.31	\$53.29
Operators (Highway, Class 03 - See Notes)	5/1/2019		\$34.14	\$24.25	\$58.39
Operators (Highway, Class 03 - See Notes)	5/1/2021		\$37.23	\$25.16	\$62.39
Operators (Highway, Class 03 - See Notes)	5/1/2020		\$35.69	\$24.69	\$60.38
Operators (Highway, Class 03 - See Notes)	5/1/2017		\$31.06	\$23.32	\$54.38
Operators (Highway, Class 03 - See Notes)	5/1/2016		\$30.28	\$22.10	\$52.38
Operators (Highway, Class 03 - See Notes)	5/1/2018		\$32.59	\$23.80	\$56.39
Operators (Highway, Class 04 - See Notes)	5/1/2020		\$35.23	\$24.57	\$59.80
Operators (Highway, Class 04 - See Notes)	5/1/2021		\$36.77	\$25.03	\$61.80
Operators (Highway, Class 04 - See Notes)	5/1/2018		\$32.14	\$23.66	\$55.80
Operators (Highway, Class 04 - See Notes)	5/1/2019		\$33.68	\$24.12	\$57.80
Operators (Highway, Class 04 - See Notes)	5/1/2017		\$30.60	\$23.20	\$53.80
Operators (Highway, Class 04 - See Notes)	5/1/2016		\$29.82	\$21.98	\$51.80
Operators (Highway, Class 05 - See Notes)	5/1/2019		\$33.18	\$23.97	\$57.15
Operators (Highway, Class 05 - See Notes)	5/1/2018		\$31.63	\$23.51	\$55.14
Operators (Highway, Class 05 - See Notes)	5/1/2017		\$30.08	\$23.06	\$53.14
Operators (Highway, Class 05 - See Notes)	5/1/2021		\$36.26	\$24.87	\$61.13
Operators (Highway, Class 05 - See Notes)	5/1/2016		\$29.31	\$21.83	\$51.14
Operators (Highway, Class 05 - See Notes)	5/1/2020		\$34.72	\$24.42	\$59.14
Operators (Highway, Class 06 - See Notes)	5/1/2016		\$32.40	\$22.70	\$55.10
Operators (Highway, Class 06 - See Notes)	5/1/2019		\$36.25	\$24.85	\$61.10
Operators (Highway, Class 06 - See Notes)	5/1/2020		\$37.79	\$25.30	\$63.09
Operators (Highway, Class 06 - See Notes)	5/1/2021		\$39.33	\$25.78	\$65.11
Operators (Highway, Class 06 - See Notes)	5/1/2018		\$34.71	\$24.39	\$59.10

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 18-02123 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Highway, Class 06 - See Notes)	5/1/2017		\$33.17	\$23.94	\$57.11
Operators (Highway, Class 06/A - See Notes)	5/1/2020		\$40.04	\$25.97	\$66.01
Operators (Highway, Class 06/A - See Notes)	5/1/2021		\$41.58	\$26.43	\$68.01
Operators (Highway, Class 06/A - See Notes)	5/1/2017		\$35.42	\$24.59	\$60.01
Operators (Highway, Class 06/A - See Notes)	5/1/2019		\$38.50	\$25.52	\$64.02
Operators (Highway, Class 06/A - See Notes)	5/1/2018		\$36.96	\$25.05	\$62.01
Operators (Highway, Class 06/A - See Notes)	5/1/2016		\$34.65	\$23.36	\$58.01
Operators (Highway, Class 07/A - See Notes)	5/1/2017		\$39.66	\$27.31	\$66.97
Operators (Highway, Class 07/A - See Notes)	5/1/2020		\$45.23	\$28.94	\$74.17
Operators (Highway, Class 07/A - See Notes)	5/1/2019		\$43.37	\$28.41	\$71.78
Operators (Highway, Class 07/A - See Notes)	5/1/2018		\$41.52	\$27.84	\$69.36
Operators (Highway, Class 07/A - See Notes)	5/1/2016		\$38.56	\$25.99	\$64.55
Operators (Highway, Class 07/A - See Notes)	5/1/2021		\$47.08	\$29.49	\$76.57
Operators (Highway, Class 07/B - See Notes)	5/1/2021		\$45.66	\$29.08	\$74.74
Operators (Highway, Class 07/B - See Notes)	5/1/2017		\$38.25	\$26.89	\$65.14
Operators (Highway, Class 07/B - See Notes)	5/1/2019		\$43.37	\$28.41	\$71.78
Operators (Highway, Class 07/B - See Notes)	5/1/2018		\$40.10	\$27.44	\$67.54
Operators (Highway, Class 07/B - See Notes)	5/1/2016		\$37.17	\$25.57	\$62.74
Operators (Highway, Class 07/B - See Notes)	5/1/2020		\$43.81	\$28.53	\$72.34
Pile Driver Divers (Building, Heavy, Highway)	1/1/2017		\$49.13	\$17.95	\$67.08
Piledrivers	1/1/2017		\$32.75	\$17.95	\$50.70
Piledrivers	1/1/2018		\$33.55	\$18.55	\$52.10
Piledrivers	1/1/2019		\$34.30	\$19.30	\$53.60
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2017		\$40.98	\$32.53	\$73.51
Truckdriver class 1(see notes)	5/1/2019		\$36.12	\$0.00	\$36.12
Truckdriver class 1(see notes)	5/1/2016		\$33.57	\$0.00	\$33.57
Truckdriver class 1(see notes)	5/1/2017		\$34.47	\$0.00	\$34.47
Truckdriver class 1(see notes)	5/1/2018		\$35.32	\$0.00	\$35.32
Truckdriver class 2 (see notes)	5/1/2019		\$36.19	\$0.00	\$36.19
Truckdriver class 2 (see notes)	5/1/2015		\$32.64	\$0.00	\$32.64
Truckdriver class 2 (see notes)	5/1/2018		\$35.39	\$0.00	\$35.39
Truckdriver class 2 (see notes)	5/1/2016		\$33.64	\$0.00	\$33.64
Truckdriver class 2 (see notes)	5/1/2017		\$34.54	\$0.00	\$34.54
Truckdriver class 3 (see notes)	5/1/2019		\$36.68	\$0.00	\$36.68
Truckdriver class 3 (see notes)	5/1/2017		\$35.03	\$0.00	\$35.03
Truckdriver class 3 (see notes)	5/1/2016		\$34.13	\$0.00	\$34.13
Truckdriver class 3 (see notes)	5/1/2018		\$35.88	\$0.00	\$35.88

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SECTION 000004 – LIST OF DRAWINGS

DRAWING NO.	DRAWING TITLE	DATE OF LATEST REVISION
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COVER SHEETS

G0.01	COVER SHEET WITH LIST OF ABBREVIATIONS, KEY PLANS, SYMBOL LEGENDS AND LIST OF DRAWINGS	15-MAY-18
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CONTRACT 201801.1 – GENERAL CONSTRUCTION

ARCHITECTURAL DRAWINGS

C1.01	SITE PLAN – EXISTING CONDITIONS	15-MAY-18
A1.00	ARCHITECTURAL – OVERALL FLOOR PLAN – 2 ND	15-MAY-18
A1.01	ARCHITECTURAL – OVERALL FLOOR PLANS – 6 TH & 8 TH	15-MAY-18
A2.00D	ARCHITECTURAL – DEMOLITION – 2 ND FLOOR PLAN – NEW JUDICIAL SECURITY SUITE	15-MAY-18
A2.00R	ARCHITECTURAL – RENOVATION – 2 ND FLOOR PLAN – NEW JUDICIAL SECURITY SUITE	15-MAY-18
A2.01	ARCHITECTURAL – DEMOLITION/RENOVATION – 6 TH FLOOR PLANS - U.G./LEGAL STAFF SUITE	15-MAY-18
A2.02	ARCHITECTURAL – DEMOLITION/RENOVATION – 8 TH FLOOR PLANS - CHIEF JUSTICE SUITE	15-MAY-18
A2.12	ARCHITECTURAL – DEMOLITION/RENOVATION FLOOR PLANS – 8 TH - CARPET REPLACEMENT	15-MAY-18
A6.00D	ARCHITECTURAL – DEMOLITION – REFLECTED CEILING PLAN – 2 ND FLOOR - JUDICIAL SECURITY SUITE	15-MAY-18
A6.00R	ARCHITECTURAL – RENOVATION – REFLECTED CEILING PLAN - 2 ND FLOOR – JUDICIAL SECURITY SUITE	15-MAY-18
A6.01	ARCHITECTURAL – DEMOLITION/RENOVATION – REFLECTED CEILING PLAN - 6 TH FLOOR – U.G./LEGAL STAFF SUITE	15-MAY-18
A6.02	ARCHITECTURAL – DEMOLITION/RENOVATION – REFLECTED CEILING PLANS - 8 TH FLOOR – CHIEF JUSTICE SUITE	15-MAY-18

CONTRACT 201801.2 – MECHANICAL CONSTRUCTION

HVAC DRAWINGS

M2.00D	MECHANICAL DUCTWORK – DEMOLITION – 2 ND FLOOR PLAN - JUDICIAL SECURITY SUITE	15-MAY-18
M2.00R	MECHANICAL DUCTWORK – RENOVATION – 2 ND FLOOR PLAN - JUDICIAL SECURITY SUITE	15-MAY-18
M2.02	MECHANICAL DUCTWORK – COMBINATION DEMOLITION/RENOVATION - 8 TH FLOOR PLAN – CHIEF JUSTICE SUITE	15-MAY-18
FP2.00	FIRE PROTECTION – COMBINATION DEMOLITION/RENOVATION - 2 ND FLOOR PLAN – JUDICIAL SECURITY SUITE	15-MAY-18
FP2.02	FIRE PROTECTION – COMBINATION DEMOLITION/RENOVATION - 8 TH FLOOR PLAN – CHIEF JUSTICE SUITE	15-MAY-18

CONTRACT 201801.4 – ELECTRICAL CONSTRUCTION

ELECTRICAL DRAWINGS

E1.01	ELECTRICAL – LIGHT FIXTURE SCHEDULE AND PANEL SCHEDULES	15-MAY-18
EL2.00	ELECTRICAL LIGHTING – COMBINATION DEMOLITION/RENOVATION - 2 ND FLOOR PLAN – JUDICIAL SECURITY SUITE	15-MAY-18
EL2.01	ELECTRICAL LIGHTING – COMBINATION DEMOLITION/RENOVATION - SIXTH & EIGHTH FLOOR PLANS	15-MAY-18
EL2.02	ELECTRICAL LIGHTING – COMBINATION DEMOLITION/RENOVATION - 8 TH FLOOR PLAN – CHIEF JUSTICE SUITE	15-MAY-18
EP2.00	ELECTRICAL POWER – COMBINATION DEMOLITION/RENOVATION - 2 ND FLOOR PLAN – JUDICIAL SECURITY SUITE	15-MAY-18
EP2.01	ELECTRICAL POWER – COMBINATION DEMOLITION/RENOVATION - SIXTH & EIGHTH FLOOR PLANS	15-MAY-18
EP2.01	ELECTRICAL POWER – COMBINATION DEMOLITION/RENOVATION - 6 TH & 8 TH FLOOR PLANS	15-MAY-18
ET2.00	ELECTRICAL POWER – COMBINATION DEMOLITION/RENOVATION - 2 ND FLOOR PLAN – JUDICIAL SECURITY SUITE	15-MAY-18
ET2.01	ELECTRICAL POWER – COMBINATION DEMOLITION/RENOVATION - 6 TH & 8 TH FLOOR PLANS	15-MAY-18

END OF SECTION 00004

SECTION 010100 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions,” “Special Requirements,” and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 LOCATION

- A. Fourth Floor, Pennsylvania Judicial Center, 601 Commonwealth Avenue, Harrisburg, Dauphin County, PA.

1.3 PROJECT DESCRIPTION

- A. The project includes the interior construction for miscellaneous renovations for the Administration Office of the Pennsylvania Courts, and to provide the following:
 - 1. A new partition on the second floor to create new offices.
 - 2. A new partition and door on the 6th floor.
 - 3. A new partition and door on the 8th floor.
 - 4. Relocation of light fixtures, receptacles, data jacks, sprinklers and duct work as required to support the installation of new partitions.
 - 5. Infrastructure for new card readers and CCTV cameras.
 - 6. Replacement of carpet on the 8th floor, limited to the areas shown on the drawings.
- B. The project includes the following major categories of work:
 - 1. Metal stud and gypsum board partitions.
 - 2. Acoustical ceiling modifications.
 - 3. Hollow metal frames.
 - 4. Wood frames, doors and hardware.
 - 5. Wood trim.
 - 6. Painting.
 - 7. HVAC system modifications.
 - 8. Electrical systems, light fixtures, receptacles, power, etc.
 - 9. Modifications to sprinkler system.

1.4 PROJECT INFORMATION

- A. Contracting Agency: Administrative Office of the Pennsylvania Courts.
 - 1. Contact Person: William Hollenbach, (717) 231-3318, bill.hollenbach@pacourts.us

1.5 WORK INCLUDED

- A. The Work of this Project consists of, but is not limited to, the following. Detailed requirements of the Work are described in the pertinent specification Sections and/or shown on the Drawings.
- B. GENERAL CONSTRUCTION (201801.1): The General Construction contract includes construction operations traditionally recognized as general construction. It also includes the administrative and coordination responsibilities for the entire project as the lead contractor. Work under this prime contract includes, but is not limited to, the following:
1. Coordination of the Work included in this contract with the Work of other prime contractors. The .1 General Contractor shall be the lead contractor.
 2. All temporary facilities assigned to the General Contractor.
 3. Developing a project schedule coordinated with the Work of other prime contractors.
 4. All rough carpentry, including wood blocking.
 5. All interior architectural millwork, including standing and running trim, wood door frames.
 6. All joint sealants.
 7. Hollow metal frames.
 8. All flush wood doors.
 9. All door hardware.
 10. All non-structural metal stud framing, including full height partitions, etc.
 11. All gypsum wall board.
 12. All carpet.
 13. All acoustical panel ceilings.
 14. All painting.
- C. MECHANICAL CONSTRUCTION (201801.2)
1. Coordination of the Work included in this contract with the Work of other prime contractors. The .1 General Contractor shall be the lead contractor
 2. All temporary facilities assigned to the HVAC Contractor.
 3. All hangers and supports for Work installed under this contract.
 4. All metal ducts.
 5. Rebalancing of modified HVAC system on the 2nd floor.
 6. All modifications to the existing sprinkler system as indicated.
- D. ELECTRICAL CONSTRUCTION (201801.4)
1. Coordination of the Work included in this contract with the Work of other prime contractors. The .1 General Contractor shall be the lead contractor.
 2. All temporary facilities assigned to the Electrical Contractor.
 3. Demolition of all electrical devices, including but not limited to receptacles, lighting control devices, voice/data jacks, light fixtures, fire alarm devices, etc., as indicated on the drawings.
 4. Demolition of all raceways, rough-in boxes etc.
 5. All low-voltage power conductors and cables.
 6. All hangers and supports for electrical systems.
 7. All conduit, raceways and boxes for electrical systems.
 8. All identification of electrical systems.
 9. All wiring devices.

10. All interior lighting fixtures.
11. All light control, occupancy sensors, etc.
12. All horizontal communication cabling, including terminations at the point of use jack at existing patch panel, and testing of cable as specified.
13. All fire alarm system work. The fire alarm system is an extension of the existing system.
14. Security system infrastructure, including rough-in boxes and cable for new CCTV camera and card readers.
15. Disconnects and reconnection of power and data for systems furniture on the 8th floor in order that systems furniture can be removed then reinstalled to permit carpet replacement.
16. All new three-way light switches and recircuiting of existing light fixtures at the work area on the 6th floor.

1.6 WORK BY OTHERS

- A. The AOPC will contract with a furniture vendor to remove and reconfigure systems furniture (workstations) on the 2nd floor.
- B. The AOPC will contract with a furniture vendor to relocate and reinstall furniture and systems furniture (workstations) as required for carpet replacement on the 8th floor.
- C. The AOPC will arrange to have the current Capitol Complex security system contractor furnish and install all card readers, CCTV cameras and door intercom/remote release.
- D. The AOPC IT staff will program the phone system for new remote release of doors on the 2nd and 8th floors. The IT staff will also program/patch video from new camera to the workstation monitors where the remote door release occurs.

1.7 QUESTIONS DURING BIDDING PERIOD

- A. Direct all questions pertaining to the project as shown and described in the contract documents shall be forwarded, in writing, to the Professional listed below:

Daniel R. Vodzak, RA
VITETTA
2505 North Front Street
Harrisburg, PA 17110
vodzak@vitetta.com
e-Fax No. (717) 754-0558

1. Subject line shall read "Bidder Question for Contract 201801.X."

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 Drawings are described in detail in the Specifications. One or more of the following are used on 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.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 010100

SECTION 010300 – BASE BID DESCRIPTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions,” “Special Requirements,” and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SECTION INCLUDES

- A. This Section includes identification of each Base Bid and description of the changes to be associated with each Base Bid.

1.3 DESCRIPTION OF SEPARATE BASE BIDS

A. GENERAL CONSTRUCTION CONTRACT (201801.1)

1. Base Bid No. 1:

- a. Shall include all the work indicated on the Contract Drawings and described in the Contract Specifications, as Base Bid No. 1 work.

B. MECHANICAL CONTRACT (201801.2)

1. Base Bid No. 1:

- a. Shall include all the work indicated on the Contract Drawings and described in the Contract Specifications, as Base Bid No. 1 work.

C. ELECTRICAL CONSTRUCTION CONTRACT (201801.4)

1. Base Bid No. 1:

- a. Shall include all the work indicated on the Contract Drawings and described in the Contract Specifications, as Base Bid No. 1 work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 010300

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SECTION 010400 – COORDINATION AND CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions,” “Special Requirements,” and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SECTION INCLUDES

- A. This Section includes the on-site provisions that govern the performance of the work to complete this Project.

1.3 CONTRACTS – FOR THIS PROJECT CONSTRUCTION

- A. GENERAL CONSTRUCTION CONTRACT (201801.1).
- B. MECHANICAL CONTRACT (201801.2).
- C. ELECTRICAL CONSTRUCTION CONTRACT (201801.4).

1.4 VISIT TO SITE

- A. For access to the site during the bidding period contact the AOPC site personnel with phone number listed below:

William Hollenbach
Telephone Number: (717) 231-3318
Email: bill.hollenbach@pacourts.us

1.5 UNIDENTIFIED HAZARDOUS MATERIALS (ASBESTOS, CHEMICALS, ETC.)

- A. Hazardous materials are not anticipated to be encountered on this project.

1.6 TESTING OF EQUIPMENT

- A. After any equipment furnished under the contract it shall be the responsibility of the Contractor to operate its equipment for a satisfactory period of time, as required for proper testing and instructing the operating personnel. Electricity and water required for proper testing of permanent equipment and for the period of instructing personnel, will be paid for by the AOPC.

1.7 INSTRUCTIONS AND TRAINING

- A. Refer to General Conditions Section 6.49 and 6.50, as specified in the applicable technical portion of each specification for “Operations and Maintenance Instruction Manuals” and “As-Built Drawing” requirements.
- B. Unless approved by the AOPC, training shall not be scheduled/conducted until As-Built Drawings, Operation and Maintenance Instruction Manuals, valve tag lists, equipment and piping system identification, and all software programming is complete.
- C. Provide full on-site training and instruction to designated Commonwealth personnel given by competent manufacturer’s authorized personnel thoroughly familiar with all technical and operational aspects of the installed items. Instructions are to cover operation and maintenance of all systems, equipment components and other items as specified and furnished under this contract. Instructional video tapes may be used to augment required instructions and training but may not be substituted for the in person on-site training.
- D. Contractor shall provide an outline of the training and course content, which shall be submitted and accepted by the Professional and AOPC prior to conducting training.
- E. Conduct instruction and training during regular working hours, except as noted below. For training on complicated systems, allow at least one-half of the training time to be at and/or with the system equipment.
- F. Provide additional training and instructions for all significant modifications and/or changes made under the terms and/or conditions of the manufacturer’s and/or Contractor’s warranty.
- G. The Contractor shall maintain and submit a sign-in list that clearly documents all personnel attending the training.

1.8 REUSE OF MATERIALS

- A. No removed materials or equipment shall be reinstalled in the work, unless so noted on the Drawing or in these Specifications.

1.9 WORKING HOURS

- A. The Contractor’s available working hours shall be from 6:00 A.M. to 6:00 P.M., Monday through Friday.
 - 1. Work in occupied areas outside the immediate work areas may not be performed during the time period of 8:30 am and 5:00 pm, unless pre-arrangement is made with the AOPC.
 - 2. Noise generating activities, such as slab cores, hammer drilling, etc., shall be performed during the time period of 5:00 am and 7:30 am.
 - 3. Schedule the above activities with the AOPC 2 days in advance.
- B. Work during different hours, or work on Saturdays, Sundays, State and National Holidays or overtime work, must have the AOPC’s prior written approval.

- C. This shall not apply in those unforeseen isolated and/or emergency instances when a particular operation must be performed in a continuous sequence that extends the working day beyond the approved working hours. Coordinate with the AOPC in these instances.
- D. The AOPC's failure to approve different working hours, weekend or holiday working hours, or overtime hours is not cause for a claim against the AOPC for delay.
- E. Utility shut-downs required for tie-ins to existing systems shall be done in off-hours, weekends and/or holidays to minimize the impact on the operations of the occupants of the Judicial Center. These costs shall be anticipated and included in the Contractor's bid.

1.10 DELIVERY, STORAGE AND HANDLING

- A. Deliveries: The AOPC will permit use of the loading dock along the east side of the site, directly adjacent to 7th Street.
 - 1. The Contractor's use of the loading dock is limited to between 6 AM and 8:30 AM. All other times must be approved in writing by the AOPC seven (7) days in advance.
 - 2. The AOPC will permit use of the hospital size elevator (Elevator 5) for transport of materials to the work floors between 6:00 AM and 8:30 AM. All other times must be approved in writing by the AOPC three (3) days in advance. This supersedes Article 19.5 of the General Conditions.
- B. Prefinished materials shall arrive at job site in their original unopened cartons or other protective packaging necessary to protect finishes. Materials should be stored in such packages until time of application. Flat materials, such as panels, shall arrive and remain on adequate support to ensure flatness and prevent damage.
- C. Store all materials, equipment and bulk items prior to installation in clean, dry, well ventilated locations.
- D. Storage locations for materials on site are very limited.
 - 1. Storage locations include the following:
 - a. At the basement level, as approved by the AOPC.
 - 2. Each Prime Contractor shall coordinate and schedule material deliveries to minimize the time periods for on-site storage of materials.
- E. Refer to each section for specific delivery, handling and storage instructions of items specified.

1.11 TRAFFIC

- A. The Lead Contractor shall establish at the Initial Job Conference a construction staging and traffic plan for the project which minimizes the construction interference with the AOPC's operation. This plan is subject to the AOPC's review and acceptance. This acceptance does not relieve the Contractors of their responsibilities regarding safety coordination and adherence to all traffic laws and ordinances.

1.12 ENVIRONMENTAL QUALITY CONTROL

- A. The Prime Contractor and its Subcontractors shall perform their work in a manner which shall minimize the possibility of air, water, land and noise pollution, in accordance with General Conditions Section 6.37.
- B. The name, address and telephone number of the Department of Environmental Protection Regional Office is furnished below. This office shall be contacted for waste disposal permits and for information concerning sites already approved for conducting waste disposal.

Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200
(717) 705-4700

Counties: Adams, Bedford, Berks, Blair
Cumberland, Dauphin, Franklin, Fulton,
Huntingdon, Juniata, Lancaster, Lebanon,
Mifflin, Perry and York

1.13 OFFICE FOR CONTRACTOR

- A. The AOPC will provide space for an office for the .1 General Contractor within the Judicial Center. Office space is not available for the other prime contractors.

1.14 PARKING

- A. Parking for construction personnel is not available at the Judicial Center. All contractors, subcontractors, etc., must use public parking within and around the Capitol Complex.

1.15 SMOKING POLICY

- A. Smoking and use of smokeless-tobacco are strictly prohibited in all buildings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 010400

SECTION 013100 – SEQUENCE OF CONSTRUCTION AND MILESTONES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions,” “Special Requirements,” and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 GENERAL REQUIREMENTS

- A. Before beginning work, the Contractor will be required to prepare a schedule in consultation with the Department. The work must be carried out in full accordance with the schedule. The Contractor shall arrange without any unnecessary interference with the Institution’s operation.

1.3 CRITICAL MATERIALS AND EQUIPMENT

- A. The Contractor is cautioned that all necessary and required critical materials and equipment shall be ordered as quickly as possible, in order that the shipping will not delay the progress of the work or completion of the project.

1.4 CRITICAL ITEMS TO BE NOTED AS MILESTONES

- A. Refer to the General Conditions, Article 8 ‘Project Schedule’, regarding construction progress Milestones to be established by the Lead Contractor:

1. GENERAL CONSTRUCTION (.1)

- a. Completion of the metal studs.
- b. Completion of the gypsum board enclosure of partitions.
- c. Completion of ceramic tile.
- d. Completion of the ceiling modifications.
- e. Completion of doors and hardware.

2. MECHANICAL CONSTRUCTION (.2)

- a. Completion of ductwork.
- b. Completion of sprinkler system modifications.

3. ELECTRICAL CONSTRUCTION (.4)

- a. Completion of demolition.
- b. Completion of the conduit and rough-in boxes.
- c. Completion of pulling of wire.
- d. Completion of activation of device power.
- e. Completion of the light fixtures.

1.5 SEQUENCING OF CONSTRUCTION AND OTHER REQUIREMENTS

- A. The contract drawings show the general sequencing of the construction, which is required by the Using Agency to minimize disruptions to the use of the various buildings within the Capitol Complex affected by the project. It is anticipated that the contractor's schedule will create subsequences within each major sequence as necessary to properly execute the work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions,” “Special Requirements,” and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

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. .1 General Contractor Requirements: Provide submittals for the following items:
 - 1. Wood framing lumber, sheathing and blocking.
 - 2. Wood trim.
 - 3. Hollow metal frames.
 - 4. Wood doors.
 - 5. Door hardware.
 - 6. Metal studs.
 - 7. Resilient base.
 - 8. Gypsum board and accessories.
 - 9. Carpet.
 - 10. Paint.
 - 11. Acoustical ceilings.
- C. .2 Mechanical Contractor Requirements: Provide submittals for the following items:
 - 1. Coordinated drawings showing as built conditions. *The Professional will provide the existing HVAC as built CAD files for the Contractor’s use in updating reflecting the modifications made by this project.*
 - 2. Duct work.
 - 3. Duct insulation.
 - 4. Balancing report.
 - 5. Sprinkler shop drawings.
 - 6. Sprinkler heads and trim.
- D. .4 Electrical Contractor Submittal Requirements: Provide submittals for the following items:
 - 1. Conduit, raceways, and boxes.
 - 2. Cable and wire.
 - 3. Wiring devices, receptacles, switches, data/voice jacks etc.
 - 4. Lighting fixtures.
 - 5. Lighting control devices, occupancy sensors, etc.
 - 6. Fire alarm devices.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Professional'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 Professional'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. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Professional's Digital Data Files: Electronic digital data files of the Contract Drawings and existing as built drawings will be provided by Professional for Contractor's use in preparing submittals.
- 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.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Professional'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 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Professional 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 7 days for review of each resubmittal.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form 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 Professional.
 4. Transmittal Form for Electronic Submittals: Use the Contractor's standard transmittal form, but provide the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Professional.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Indication of full or partial submittal.
 - l. Transmittal number numbered consecutively.
 - m. Submittal and transmittal distribution record.
 - n. Other necessary identification.
 - o. Remarks.
- E. Options: Identify options requiring selection by Professional.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Professional on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

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. Submit electronic submittals via email as PDF electronic files.
 - a. Professional will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

- 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.
- 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, but no larger than 30 by 42 inches.
 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.
 - e. Specification paragraph number and generic name of each item.
 3. Samples are required for the following items
 - a. Wood trim and panels.
 - b. Wood door finish samples.
 - c. Acoustical ceiling panels
 - d. PDF electronic file.
- E. Contractor's Construction Schedule: Provide a bar chart schedule.
- F. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Contractor standard test report format will be acceptable.
- G. Maintenance Data: Provide manufacturer's standard Operation and Maintenance Data.

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 Professional.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file 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 Professional.
- B. 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.
- C. Submit all submittals as a PDF file via email to Sharon Hindermeyer at VITETTA hindermeyer@vitetta.com.

3.2 PROFESSIONAL'S ACTION

- A. Action Submittals: Professional will review each submittal, make marks to indicate corrections or revisions required, and return it. Professional will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Professional will review each submittal and will not return it, or will return it if it does not comply with requirements. Professional will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Professional.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Professional without action.

END OF SECTION 013300

SECTION 015000 – TEMPORARY UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions of the Construction Contract,” “Special Conditions,” and “Division 1 - General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 TEMPORARY SERVICES DURING CONSTRUCTION

- A. The designated Contractor shall install, operate, protect and maintain the temporary services, as hereinafter specified, during the construction of the entire Project.

1.3 TEMPORARY WATER SUPPLY

- A. Water will be available from any of the janitor’s closets on the first floor.
- B. The AOPC will not charge for water used for construction activities.

1.4 TEMPORARY HEAT AND COOLING

- A. The .2 HVAC Contractor shall maintain the existing system to supply conditioned air to the work area throughout the construction period.
 - 1. The HAVC Contractor shall provide filters; cover returns, etc. as required to prevent contamination of the existing HVAC system with construction dust.
 - 2. The AOPC will not charge for heating or cooling.

1.5 CONSTRUCTION LIGHT AND POWER

- A. The 4. Electrical Contractor shall maintain the existing light fixtures and receptacles for temporary light and power during the construction period.
 - 1. The AOPC will not charge a usage fee for electric power consumed for construction activities.
 - 2. As an alternative to maintaining existing light fixtures, the .4 Electrical Contractor may provide supplementary temporary light fixtures.
 - 3. Once the permanent light fixtures are in place, the .4 Electrical Contractor shall remove all temporary light fixtures.

1.6 WELDING

- A. It is not anticipated that welding will be required for the project.

1.7 FIRE EXTINGUISHERS

- A. The .1 General Contractor shall provide three UL listed, NFPA approved fire extinguishers, ten (10) lb. minimum, at the construction site during operations, suitable for all types of fires in accordance with OSHA

1.8 TEMPORARY PARTITIONS

- A. The need for temporary partitions is not required for this project.

1.9 TEMPORARY TOILETS

- A. The AOPC will permit use of the existing public toilet rooms by construction personnel. This supersedes Article 19.3 of the General Conditions.

1.10 SIGNAGE

- A. A project sign will not be required for this project. This supersedes Article 19.1 of the General Conditions.

1.11 INTERRUPTION OF SERVICES

- A. Shut down or interruption of services that effect the operation or occupancy of the Judicial Center shall not be permitted during normal hours of operations, 8:30 AM to 5:00 PM.
- B. Each Prime Contractor shall have all needed equipment and material to complete planned work at the site, prior to shutting down any system.
- C. No additional compensation or time will be given to the Contractor, if work must be performed on State or National Holidays or on weekends or on overtime. See paragraph on 'Working Hours' under Section 01040.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 015000

SECTION 016400 - CAPITOL COMPLEX SECURITY PROGRAM AND CONTRACTOR REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 DGS SECURITY PROGRAM FOR THE CAPITOL COMPLEX

- A. Purpose: The purpose of the security program is to establish policy and procedures for contractor access to the Capitol Complex and other state office buildings. The policy and procedures outlined in this directive will enable contractors to gain safe access to buildings identified in the contract documents.
- B. Scope: This security program applies to all Commonwealth employees and contracted personnel under the Governor’s jurisdiction and those employed by independent agencies as well as other individuals and organizations with offices or work locations in the Capitol Complex and other state office buildings.
- C. Definitions: For purposes of this security program, the following words and phrases shall be defined as:
 - 1. Biometric Reader: A device that reads the electronic encryption on an access card and makes an automatic non-invasive assessment of a unique body feature whereby access control systems may be activated.
 - 2. Building Maintenance Spaces: Data closets; air handling equipment rooms; major electrical and building services spaces.
 - 3. Core Buildings: Capitol Building (including the Main Capitol Building and its East Wing); Ryan Building; North Office Building; Speaker K. Leroy Irvis Building; connecting tunnels.
 - 4. Capitol Complex: Core buildings plus Forum Building, Finance Building, Health and Welfare Building, Labor and Industry Building, Keystone Building, Northwest Office Building, Judicial Center, Rachel Carson Building, Strawberry Square and State Museum.
 - 5. Other State Office Buildings: Department of Agriculture; DGS Annex Complex (formerly the Harrisburg State Hospital complex); DGS Public Works at 18th and Herr Streets; DGS at 22nd and Forster Streets; Harristown #1, Harristown #2, Commonwealth Tower; Philadelphia, Pittsburgh, Scranton and Reading state office buildings.
 - 6. Capitol Police Security Administration: The Capitol Police Security Administration under the Superintendent of the Capitol Police is responsible for establishing procedures for issuance of photo identification badges and photo identification access badges. The Capitol Police Security Administration produces photo identification badges and photo identification access badges, including the “Emergency Response” designation and maintains photo identification access badge permissions.

7. Card Reader: A device that reads the electronic inscription on an access badge whereby locks or other access control systems may be activated.
 8. DGS: Department of General Services.
 9. Emergency Response Designation: A red banner with “Emergency Response” printed on the photo identification access badge or a photo identification badge. This designation is determined by the agency and allows the individual access to state offices during an emergency.
 10. Photo identification access badge: A card with an employee’s photograph, name and department programmed to permit access through use of a card reader or a photo identification badge programmed to permit access through the use of a card reader.
 11. Photo Identification Badge: A card with the individual’s photographs, name and association issued to a registered lobbyist, the employee of a contractor or credentialed press for presentation at a visitor entrance.
- D. Policy and Procedures for Contracted Personnel: The following policy and procedures are in place to ensure that personnel of all contracted firms, companies and associations are approved to perform work or provide services in the Harrisburg Capitol Complex and other secured buildings and premises. This does not include suppliers, visiting vendors or delivery persons who must enter through secured visitor’s entrances.
1. Contracted personnel who will be on the premises during the business day (Monday – Friday, 6am-6pm) for less than two weeks will NOT need identification badges, and will be admitted to buildings through the security checks at visitor’s entrances. All contracted personnel who will be on the premises for more than two weeks during the business day, or after business hours, on weekends and on holidays, MUST HAVE identification badges and are considered to be prime contracted personnel.
 2. The DGS Bureau of Construction Staff/Construction Manager oversees and coordinates the various phases of work performed by contracted persons (including subcontractors, their subcontractors and suppliers) and insures the general conditions and all requirements of the project are met for the Commonwealth. This includes security related issues for contractor access and compliance with the Request for Criminal History Record Information Act check (CHRIA) performed by the Pennsylvania State Police.
 3. The BOC Staff/Construction Manager will ensure that contracted personnel have complied with the criminal history background check process. Personnel requiring photo identification badges must present a cleared CHRIA report and photo identification to Security Administration before the badge is issued. To cover costs incurred by DGS in processing requests for badges by contracted personnel, a processing fee of \$10.00 for a photo identification badge or \$20.00 for a photo identification access badge must be paid by the Contractor before a badge will be issued. Badges that have been damaged, destroyed, stolen or lost through negligence will be replaced only after payment of a replacement fee of \$25.00 for a photo identification access badge or \$15.00 for a photo identification badge. Payment for badges will be in the form of check or money order payable to the Commonwealth of Pennsylvania.
 4. Scheduling of Photos: BOC Staff/The Construction Manager will advise Capitol Police Security Administration of individuals requiring appointments for photo identification. The BOC Staff/Construction Manager will do all communication regarding photo appointments. If you have any questions, please contact the BOC Staff/Construction Manager.

5. Badges: The appropriate identification badge will be issued to contracted persons who have a clear CHRIA report. If a CHRIA report reflects a positive criminal history, the Bureau of Police and Safety will make appropriate review and enforce its denial policy where required. Individuals with a background that is deemed a security risk will not be issued an identification badge. The badge will be issued for a one-year period from the date of request on the PA State Police Background Check. Badges subject to renewal will be coordinated in the same manner as new issue badges. A new CHRIA certification and processing fee are required each year. Capitol Police Officers will be required to check expiration dates and decline access to those whose badges have expired dates with no exceptions. All badges must be returned to the Construction Manager at the completion of a project or contract. The Construction Manager must return terminated badges to the Capitol Police Security Administration. The Contractor is responsible for paying the replacement/lost badge fee for any badge not returned at the completion of the project. This will be done by a credit Change Order.
6. CHRIA: To obtain your CHRIA report, access the following website: <https://epatch.state.pa.us>. Fill out the information form and use your credit card. If you have no criminal history, you will receive a clear CHRIA report almost immediately. Click on the control number and then certified form. Print the certified form. Security Administration will only accept the certified form that contains the state seal. If there is a criminal history it will be sent by mail. The CHRIA must be submitted to the BOC Staff/Construction Manager along with the processing fees, and the Construction Manager will submit all information to the Security Administration Office. The BOC Staff/Construction Manager will inform the Contractor when the badge(s) are ready for the Contractor to pick up.
7. All badges must be returned to the BOC Staff/Construction Manager at the completion of a project or contract. The BOC Staff/Construction Manager must return terminated badges to the Capitol Police Security Administration. The employer of contracted personnel is responsible for paying the replacement/lost badge fee, for any badge not returned at the completion of the project.

1.3 CONTRACTOR REQUIREMENTS FOR THE SECURITY PROGRAM

- A. Each Prime Contractor shall designate a security coordinator to coordinate security issues with its subcontractors and the BOC Staff/Construction Manager.
- B. The security program must be maintained throughout the construction period until final completion.
- C. For new badges, the CHRIA must be submitted to the BOC Staff/Construction Manager 48 hours prior to the scheduled photo appointment; for renewals, no less than 24 hours prior to the individual starting work on the project. Upon submittal of the CHRIA, the security coordinator must inform the BOC Staff/Construction Manager as to the DGS Project Name and No. their personnel will be working on.
- D. The security coordinator for each prime contractor must contact the BOC Staff/Construction Manager to coordinate and schedule an appointment to obtain photo identification badges for all of their employees as well as the employees of sub-contractors or suppliers.

- E. All employees shall display the photo identification badge at all times.

1.4 ACCESS TO OCCUPIED/SECURED AREAS REQUEST

- A. All Contractors' employees must have an approved written request for access to all occupied/secured areas of a building. Employees who enter areas other than those designated on the approved written request will be immediately escorted from the site and will not be permitted to return.
- B. Contractors are not allowed to work in buildings outside regular hours without authorization from the Client Agency. Requests must be made 48 hours in advance. Contractors are not allowed to be in the building unless the Client Agency is present as approved by the Client Agency.
- C. The following procedures are presented to establish a consistent and trackable method for the request and authorization of access for occupied/secured areas in the Capitol Complex. The intent is to streamline the process to minimize construction delays and to inform the Client Agencies and Security Agencies of contractor activity in a timely manner. All access requests will be processed through the Construction Manager. The Request for Access procedure established is outlined below:
 - 1. The "Request for Access to Occupied/Secured Areas" form should be fully completed by the Contractor and faxed/emailed to the Construction Manager. This request is to be made no later than 72 hours prior to the requested access date (see Attachment #1).
 - 2. Upon receiving the request from the Contractor, the Construction Manager will request approval from the affected Client Agency and/or Security Agency.
 - 3. The notification of approval will be made via fax or email transmission to the Contractor and DGS once received from the Client Agency and Security Agency. Denials will be communicated to the Contractor via phone, fax and email to explain the reason for the denial and to re-schedule the access.
 - 4. Cancellation of access by the Contractor must be submitted to the Construction manager in writing at least (8) eight hours prior to the start time.

1.5 DELIVERY NOTIFICATIONS

- A. All Contractors' employees must have written notification to deliver goods and/or services to the Capitol Complex. Employees who attempt to deliver items without prior notification may be denied access to the delivery area and may not be permitted to return until written notification has been submitted.
- B. The following procedures are presented to establish a consistent and trackable method for the notification of the delivery of goods and services to the Capitol Complex. The intent is to streamline the process to minimize construction delays and to inform the Client Agencies and Security Agencies of contractor activity in a timely manner. All delivery notifications will be processed through the BOC Staff/Construction Manager. The Delivery Notification procedure established is outlined below:
 - 1. The "Delivery Notification" should be completely filled out by the Contractor and faxed or emailed to the BOC Staff/Construction Manager. This request is to be made not later than 24 hours prior to the requested delivery (see Attachment #2).

2. Upon receiving the notification from the Contractor, the BOC Staff/Construction Manager will notify the Security and Client Agency. The contractor should ensure the delivery driver has a copy of the delivery notification at the time of delivery.

1.6 UTILITY SHUTDOWN REQUESTS

- A. All Contractors' employees must have written approval for a Utility Shutdown in any area involving the Capitol Complex.
- B. The following procedures are presented to establish a consistent and efficient method for the request and approval of a utility shutdown to services at the Capitol Complex. The intent is to streamline the process to minimize construction delays and to inform the Client Agencies and Security Agencies of contractor activity in a timely manner. All utility shutdown requests will be processed through the BOC Staff/Construction Manager. The utility shutdown procedure established is outlined below:
 1. The "Request for Utility Shutdown" should be completely filled out by the Contractor and faxed or emailed to the BOC Staff/Construction Manager. This request is to be made no later than two (2) weeks prior to the requested shutdown (see Attachment #3).
 2. Upon receiving the shutdown request from the Contractor, the BOC Staff/Construction Manager will request approval from the affected Client Agency and/or Security Agency.
 3. The notification of approval will be made via fax or email transmission to the Contractor and DGS once received from the Client Agency and/or Security Agency. Denials will be communicated to the Contractor via phone, fax and email to explain the reason for the denial and to re-schedule the shutdown.
 4. Cancellation of shutdown by the Contractor must be submitted to the BOC Staff/Construction manager in writing at least eight (8) hours prior to the start time. Failure to notify the BOC Staff/Construction Manager may result in back charges to the contractor via credit change order for overtime fees expended by state personnel that may be scheduled to work solely due to the requirements of the contractor shutdown.
 5. A shutdown coordination meeting is required with all shutdown requests. The Construction Manager will coordinate this meeting between the Contractor, subcontractors, vendors, suppliers, Client Agencies and/or Security Agencies.

1.7 HOT WORK PERMITS

- A. A construction fire can be the single most devastating event to affect a project. Contractor's employees must be thoroughly briefed and familiar with the applicable practices of the National Fire Protection Association.
- B. Any hot work being performed requires the Contractor to complete a hot work request using the "24 Hour Notice Fire/Safety Work Permit" form. A separate request is necessary for each area where hot work is being performed. Upon DGS Fire/Safety approval, the Contractor can perform hot work as indicated on the request. The Contractor is required to have a copy of the signed "24 Hour Notice Fire/Safety Work Permit" form at the location of hot work.

- C. The DGS Fire/Safety personnel will periodically check the job during the shift for conformance to the hot work request; any individual not in compliance with the request will be removed from the project. The Contractor performing this work shall be totally responsible, legally and financially, for any damage that may occur as a result of this work. The procedure for acquiring a hot work permit is outlined below:
1. The Contractor will request and receive the “24 Hour Notice Fire/Safety Work Permit” form electronically from the Construction Manager (see Attachment #4). This is an electronic PDF form with dropdown boxes to make selections. The contractor will be required to complete this form electronically.
 2. All Contractors must have an approved “24 Hour Notice Fire/Safety Work Permit” form prior to performing any hot work.
 3. A “24 Hour Notice Fire/Safety Work Permit” form is required under the following hot work descriptions:
 - a. Chemical Use
 - b. Cooking
 - c. Cutting
 - d. Grinding
 - e. Insulation
 - f. Ladder Work
 - g. Painting
 - h. Restoration
 - i. Sandblasting
 - j. Soldering
 - k. Static Displays
 - l. Sterno
 - m. Welding
 - n. Other Contact Fire/Safety with Explanation
 4. Upon fully completing the “24 Hour Notice Fire/Safety Work Permit” form, the Contractor shall email to the Fire and Safety Agency (gs-firesafetyenv@state.pa.us) and copy the DGS Bureau of Construction and the Construction Manager, with at least a 24 hour period before the hot work commences. The Fire and Safety Agency will either approve or advise if other requirements are necessary and email back to contractor, DGS Bureau of Construction and the Construction Manager.
 5. Contractor must comply with all instructions on the form and the checklist. They must have the form in their possession while performing the hot work.
 6. Hot work must be completed 60 minutes before fire watch is conducted by Contractor who has done the hot work. Contractor must provide an email reporting time of completion of work and time of fire watch and results to DGS and the Client Agency.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION 016400

Attachment #1
January 16, 2009

Request for Access to Occupied/Secured Areas

Date: _____ **DGS Project No.:** _____

Contractor: _____ **Subcontractor (if applicable):** _____

Point of Contact: _____

Phone/Cell/Pager: _____

Building: _____

Room No(s): _____

Date(s) of Proposed Access: _____

Exact Time(s) of Proposed Access: _____

Scope of Work to be Performed/Crew Size:

Hot work will be performed during this access: YES NO

COMPLETE FORM AND FAX OR EMAIL TO CONSTRUCTION MANAGER (CM)

CM Contact Person: _____

CM Contact Fax: _____

CM Contact Email: _____

CM Contact Phone: _____

Do not write below this line – for Department of General Services Use Only
.....

If this access is acceptable, please sign below and this approval will be sent to all contractors requiring access. If there are modifications to this schedule, please note accordingly and we will distribute. Thank you in advance for your assistance.

Authorizing signature and date: _____
(email response is acceptable)

Attachment #2

January 16, 2009

Delivery Notification

Date: [REDACTED] DGS Project No.: [REDACTED]

Contractor: [REDACTED] Subcontractor (if applicable): [REDACTED]

Point of Contact: [REDACTED]

Phone/Cell/Pager: [REDACTED]

Driver: [REDACTED] Badge: Yes No

Vehicle year, make, model and color: [REDACTED]

License Plate No.: [REDACTED]

Exact Time(s) of Proposed Delivery: [REDACTED]

Date of Proposed Delivery: [REDACTED]

Where Delivery will take place: [REDACTED]

Who will receive Delivery/Contact info: [REDACTED]

COMPLETE FORM AND FAX OR EMAIL TO CONSTRUCTION MANAGER (CM)

CM Contact Person: _____

CM Contact Fax: _____

CM Contact Email: _____

CM Contact Phone: _____

Attachment #3
January 16, 2009

Request for Utility Shutdown

Date: [redacted] **DGS Project No.:** [redacted]

Contractor: [redacted] **Subcontractor (if applicable):** [redacted]

Point of Contact: [redacted]

Phone/Cell/Pager: [redacted]

Utility Proposed for Shutdown: [redacted]

Date and Time Shutdown is Proposed to Start: [redacted]

Date and Time Restart is Proposed: [redacted]

Specific Area(s) to be Affected: [redacted]
(Identify Room Nos. from floor plans included and no contract drawings)

Justification for Shutdown Request:
[redacted]

COMPLETE FORM AND FAX OR EMAIL TO CONSTRUCTION MANAGER (CM)

CM Contact Person: _____

CM Contact Fax: _____

CM Contact Email: _____

CM Contact Phone: _____

This Section to be completed by the Construction Manager (CM)

Request sent to (DGS Contact/Date): [redacted]

Deadline for Response to CM: [redacted]

Do not write below this line – for Department of General Services Use Only

DGS Authorizing signature and date: [redacted]

DGS Rejection signature and date: [redacted]

Attachment #4
January 16, 2009

****24 HOUR NOTICE ****
FIRE/SAFETY WORK PERMIT

Date of Request:		Work Order # DGS Project #	
Building:		Floor:	
Exact location:			
Exact Work Description: (Note) Select From Drop down List WELDING			
Exact Location:			
CONTRACTOR / AGENCY:			
Date of Work:		Start Time:	Finish Time:
PERSON CONDUCTING WORK:		Fire Watch:	
SUPERVISOR:		Contact Phone #	
<u>THE FOLLOWING ITEMS ARE REQUIRED AND MUST BE ADHERED TO ACCORDINGLY OR WORK WILL BE DENIED OR RESCHEDULED</u>			
PERSONS CONDUCTING WORK THAT REQUIRES A FIRE/SAFETY PERMIT WILL ABIDE BY THE FOLLOWING:			
<ul style="list-style-type: none"> • Notify the DGS Building Manager and the DGS Fire Safety Office of any intended Hot Work via this form NOT LESS THAN 24 HRS NOTICE UNLESS DEEMED AN EMERGENCY. • ONCE THIS FORM IS COMPLETED IT MUST BE SUBMITTED ELECTRONICALLY. • Be responsible for fire protection in the work areas and staging areas • Supply and maintain all necessary fire protection equipment. • Provide a minimum of two APPROVED working fire extinguishers rated at 10 lb. ABC within each Work/Event area 75 ft. apart. • Provide a fire watch at all times while open flame operations are taking place and for one hour after completion of work. • Utilize a flame resistant pad to protect all adjacent surfaces from open flame. • Provide a smoke/dust elimination devices or negative air enclosure at work site. • Not permitted to leave the work area until the materials have reached a temperature where it can be touched with a non-gloved hand. 			
<p>Contact information for DGS Fire Safety Phone (717-772-4545) E-Mail to: GS-firesafetyenv@state.pa.us</p>			
HOT WORK CHECKLIST			
<input type="checkbox"/>	Fire alarm system is disabled or there is no risk of activation.		
<input type="checkbox"/>	The area is swept clean of combustibles.		
<input type="checkbox"/>	All movable combustible items have been moved away from Hot Work area.		
<input type="checkbox"/>	All non-movable combustible flooring, building material, adjacent surfaces are covered with flame Resistant blankets.		
<input type="checkbox"/>	Flame Resistant Pads / Tarpaulins suspended beneath work if working on walls or ceilings.		
<input type="checkbox"/>	Hot Work is being conducted on Non-Combustibles and without Combustible Covering or Insulation.		
<input type="checkbox"/>	Enclosed equipment (If at or adjacent to the Hot Work areas) is cleaned of all combustibles.		
<input type="checkbox"/>	Containers adjacent to Hot Work area purged of ALL Combustible Materials.		
<input type="checkbox"/>	Fire Watch is trained in use of Portable Fire Extinguishers and Sounding the Alarm.		
DISABLED POINT (S) OR LOOP (S)			
Approval date:		Approval Time:	
Date Posted:		Time Posted:	
DGS FIRE / SAFETY APPROVAL:			

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wood blocking and nailers.
 - 2. Wood framing and subflooring for raised floor risers at Grand Jury Courtroom B620.

1.3 DEFINITIONS

- A. Exposed Framing: Framing not concealed by other construction.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- C. Timber: Lumber of 5 inches nominal (114 mm actual) or greater in least dimension.
- D. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NLGA: National Lumber Grades Authority.
 - 3. RIS: Redwood Inspection Service.
 - 4. SPIB: The Southern Pine Inspection Bureau.
 - 5. WCLIB: West Coast Lumber Inspection Bureau.
 - 6. WWPA: Western Wood Products Association.

1.4 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Fire-retardant-treated wood.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- E. Application: Treat all rough carpentry unless otherwise indicated.

2.3 LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and any of the following species:
 - 1. Hem-fir (north); NLGA.
 - 2. Mixed southern pine; SPIB.
 - 3. Spruce-pine-fir; NLGA.
 - 4. Hem-fir; WCLIB or WWPA.
 - 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - 6. Western woods; WCLIB or WWPA.
 - 7. Northern species; NLGA.
 - 8. Eastern softwoods; NeLMA.

2.4 SUBFLOORING

- A. Plywood Subflooring: Either DOC PS 1 or DOC PS 2, single-floor panels or sheathing.
 - 1. Span Rating: Not less than 24.
 - 2. Nominal Thickness: Not less than 23/32 inch.

2.5 MINERAL-WOOL BOARD INSULATION

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the work include, but are not limited to, the following:
 - 1. Fibrex Insulations, Inc.
 - 2. Isolatek International.
 - 3. Owens Corning.
 - 4. Roxul, Inc.
 - 5. Thermafiber.
- B. Unfaced, Mineral-Wool Board Insulation: ASTM C 612; with maximum flame-spread and smoke-developed indexes of 15 and zero, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.
 - 1. Nominal density of 4 lb/cu. ft. (64 kg/cu. m), Types 1A and 1B, thermal resistivity of 4 deg. F x h x sq. ft./Btu x in. at 75 deg. F (27.7 K x m/W at 24 deg. C.).

2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Wood Screws: ASME B18.6.1.
- C. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- D. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- E. Screw for Fastening Subflooring to Wood Framing: ASTM C 1002.

2.7 METAL FRAMING ANCHORS

- A. Available Manufacturer: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the work include, but are not limited to, the following:
 - 1. KC Metal Products.
 - 2. Phoenix Metal Products.
 - 3. Simpson Strong Tie Company.
 - 4. USP Structural Connectors.
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 WOOD FRAMING FOR RISERS

- A. General: Install floor joists with crown edge up and support ends of each member with not less than 3-1/2 inches of bearing on wood. Attach floor joists as follows:
 - 1. Where supported on wood members, by using metal framing anchors.
- B. Frame openings with headers and trimmers supported by metal joists hangers; double headers and trimmers where span of header exceeds 48 inches.
- C. Do not notch in middle third of joists; limit notches to one-sixth depth of joist, one-third at ends. Do not bore holes larger than one-third depth of joist; do not locate closer than 2 inches (50 mm) from top or bottom.
- D. Pack all voids between framing members solid with mineral wool board insulation.

3.4 SUBFLOORING INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Subflooring:
 - a. Glue and screw to wood framing.
 - b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 061000

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SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior standing and running trim.
 - 2. Interior frames and jambs.
 - 3. Shop finishing of interior woodwork.
- B. Related Sections include the following:
 - 1. Division 6 Section "Miscellaneous Carpentry" for wood furring, blocking, shims, and hanging strips required for installing woodwork and concealed within other construction before woodwork installation.

1.3 DEFINITIONS

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.
- B. Rough carriages for stairs are a part of interior architectural woodwork. Platform framing, headers, partition framing, and other rough framing associated with stairwork are specified in Division 6 Section "Rough Carpentry."

1.4 SUBMITTALS

- A. Product Data: For panel products, high-pressure decorative laminate, adhesive for bonding plastic laminate, solid-surfacing material, cabinet hardware and accessories, handrail brackets and finishing materials and processes.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show details full size.
 - 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.

3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers and other items installed in architectural woodwork.
4. Show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.

C. Samples for Verification:

1. Lumber with or for transparent finish, not less than 5 inches (125 mm) wide by 24 inches (600 mm) long, for each species and cut, finished on 1 side and 1 edge.
2. Veneer-faced panel products with or for transparent finish, 12 by 24 inches (300 by 600 mm), for each species and cut. Include at least one face-veneer seam and finish as specified.
3. Plastic laminates, 8 by 10 inches, for each type, color, pattern, and surface finish, with 1 sample applied to core material and specified edge material applied to 1 edge.
4. Solid-surfacing materials, 6 inches square.
5. Corner pieces as follows:
 - a. Cabinet-front frame joints between stiles and rails, as well as exposed end pieces, 18 inches high by 18 inches wide by 6 inches deep.
 - b. Miter joints for standing trim.
6. Exposed cabinet hardware and accessories, one unit for each type and finish.

D. Qualification Data: For Installer and fabricator.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
- B. Installer Qualifications: Fabricator of product, or an installer who has successfully completed five projects of similar size and scope.
- C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until HVAC system is operating and maintaining temperature between 60 and 90 deg. F (16 and 32 deg. C) and relative humidity between 25 and 55 percent during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.
 - 2. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.8 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.
- B. Hardware Coordination: Distribute copies of approved hardware schedule specified in Division 8 Section "Door Hardware (Scheduled by Describing Products)" to fabricator of architectural woodwork; coordinate Shop Drawings and fabrication with hardware requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
- B. Wood Species and Cut for Transparent Finish: Cherry, plain sawn.
- C. Wood Products: Comply with the following:
 - 1. Recycled Content of Medium-Density Fiberboard: Provide products with an average recycled content so postconsumer recycled content plus one-half of pre-consumer recycled content is not less than 50 percent.
 - 2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
 - 3. Softwood Plywood: DOC PS 1.
 - 4. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.

- D. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Formica Corporation; NO SUBSTITUTIONS.
- E. Simulated Stone Material: Homogeneous solid sheets consisting of natural quartz stone, resinous binders and natural pigments complying with ISSFA-2.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Silestone; Cosentino, Inc. NO SUBSTITUTIONS.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Comply with performance requirements of AWPA C20 (lumber) and AWPA C27 (plywood). Use the following treatment type:
 - 1. Exterior Type: Organic-resin-based formulation thermally set in wood by kiln drying.
 - 2. Interior Type A: Low-hygroscopic formulation.
 - 3. Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking plant certified by testing and inspecting agency.
 - 4. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.
 - 5. Kiln-dry materials before and after treatment to levels required for untreated materials.

2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated softwood lumber, kiln dried to less than 15 percent moisture content.
- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.
- C. Adhesives, General: Do not use adhesives that contain urea formaldehyde.
- D. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Wood Glues: 30 g/L.
 - 2. Contact Adhesive: 250 g/L.

- E. Adhesive for Bonding Plastic Laminate: Pigmented water-based contact cement.

2.4 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Unless otherwise indicated, provide Premium-grade interior woodwork complying with referenced quality standard.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- C. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
 - 1. Corners of Cabinets and Edges of Solid-Wood (Lumber) Members 3/4-Inch-Thick or Less: 1/16 inch.
 - 2. Edges of Rails and Similar Members More Than 3/4-Inch-Thick: 1/8 inch.
 - 3. Corners of Cabinets and Edges of Solid-Wood (Lumber) Members and Rails: 1/16 inch.
- D. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.
- E. Shop-cut openings to maximum extent possible to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 1. Seal edges of openings in countertops with a coat of varnish.

2.5 INTERIOR STANDING AND RUNNING TRIM FOR TRANSPARENT FINISH

- A. Grade: Premium.
- B. Wood Species and Cut: Cherry.
- C. For trim items wider than available lumber, use veneered construction. Do not glue for width.
- D. For rail wider or thicker than available lumber, use veneered construction. Do not glue for width or thickness.
- E. Profile: Match existing base and, door casing.

- F. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- G. Assemble casings in plant except where limitations of access to place of installation require field assembly.
- H. Assemble moldings in plant to maximum extent possible. Miter corners in plant and prepare for field assembly with bolted fittings designed to pull connections together.

2.6 INTERIOR FRAMES AND JAMBS FOR TRANSPARENT FINISH

- A. Grade: Premium.
- B. Wood Species and Cut: Cherry.
- C. For frames or jambs wider than available lumber, use veneered construction. Do not glue for width.

2.7 SHOP FINISHING

- A. Grade: Provide finishes of same grades as items to be finished.
- B. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- C. General: Shop finish transparent-finished interior architectural woodwork at fabrication shop as specified in this Section. Refer to Division 9 painting Sections for finishing opaque-finished architectural woodwork.
- D. General: Drawings indicate items that are required to be shop finished. Finish such items at fabrication shop as specified in this Section. Refer to Division 9 painting Sections for finishing architectural woodwork not indicated to be shop finished.
- E. Shop Priming: Shop apply the prime coat including backpriming, if any, for transparent-finished items specified to be field finished. Refer to Division 9 painting Sections for material and application requirements.
- F. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.
 - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate, backing paper, or thermoset decorative panels.
- G. Transparent Finish:
 - 1. Grade: Premium.

2. Custom Finish System (WD-1):
 - a. Stain: Two coats “Cherry;” Minwax.
 - b. Sanding Sealer: One coat “Enduro Sanding Sealer;” General Finishes.
 - c. Top Coat: Four coats “Enduro Clear Poly, Satin;” General Finishes.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

- A. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- B. Assemble woodwork and complete fabrication at Project site to comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.
- C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws] for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 60 inches (long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.
 1. Install standing and running trim with no more variation from a straight line than 1/8 inch in 96 inches (3 mm in 2400 mm).
- G. Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean woodwork on exposed and semi-exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 064023

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Latex joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Architectural Sealants: 250 g/L.

2.2 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. May National Associates, Inc.; Bondaflex 600.
 - d. Pecora Corporation; AC-20+.
 - e. Schnee-Morehead, Inc.; SM 8200.
 - f. Tremco Incorporated; Tremflex 834.
 - 2. Colors: As selected by Professional.

2.3 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- B. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Non-Sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
 - b. Other joints as required.
 - 2. Joint Sealant: Latex.
 - 3. Joint-Sealant Color: White. Install joint sealant prior to painting.

END OF SECTION 079200

DOOR SCHEDULE														
DOOR No.	ROOM		DOOR							FRAME		FIRE RATING	HDWR SET	REMARKS (key at end of schedule)
			TYPE	SIZE			MATERIAL	FINISH	GLASS	MATERIAL	FINISH			
	NAME	NUMBER		WIDTH	HEIGHT	THICK								
SECOND FLOOR														
B221C	AOPC Office	B221C	E	3'-0"	7'-0"	1-3/4"	Wood	Factory Finish	G-1	Hollow Metal	P-2		6	1, 5
B221D	AOPC Office	B221D	E	3'-0"	7'-0"	1-3/4"	Wood	Factory Finish	G-1	Hollow Metal	P-2		6	1, 5
SIXTH FLOOR														
B666A	Legal Staff	B666	B	3'-0"	7'-0"	1-3/4"	Wood	Factory Finish		Hollow Metal	P-2		1	1
EIGHTH FLOOR														
B817A	Passage	B817	B	3'-0"	7'-0"	1-3/4"	Wood	Factory Finish		Wood	Shop Finish		3	6
B844A	Chief Justice Reception	B844	D	(2) 3'-0"	7'-0"	1-3/4"	Existing Wood	Existing		Existing HM	Existing		2	2, 4
B860A	Unified Growth Office	B860	D	3'-0"	7'-0"	1-3/4"	Existing Wood	Existing		Existing HM	Existing		4	3
B863B	Gathering	B863	D	3'-0"	7'-0"	1-3/4"	Existing Wood	Existing		Existing HM	Existing		5	2, 4

DOOR TYPES KEY

- A Flush door.
- B Sketch face flush wood door with applied trim.
- C Existing door to be re-installed.
- D Existing door to remain.
- E Flush door with sidelite frame. Refer to 08/A2.01.

REMARKS KEY

- 1 1" face frame.
- 2 Clean existing door and touch-up all blemishes.
- 3 Remove existing frame, door, hardware and side light glazing; re-install at new location indicated.
- 4 Modify existing (drill, etc.) door to accept electrified hardware.
- 5 Provide 1/4" glass at sidelite to match existing sidelite glazing; McGory No. VTG .003 (mcgory.com).
- 6 Provide wood (Cherry) door frame and casing to match existing. Refer to 07/A2.01.

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SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Solid-core doors with sketch wood-veneer faces and applied molding.
 - 2. Factory finishing flush wood doors.
 - 3. Factory fitting flush wood doors to frames and factory machining for hardware.
- B. Related Requirements:
 - 1. Section 062023 "Interior Finish Carpentry" for wood door frames.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of door. Include details of core and edge construction, louvers, and trim for openings.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:
 - 1. Dimensions and locations of blocking.
 - 2. Dimensions and locations of mortises and holes for hardware.
 - 3. Dimensions and locations of cutouts.
 - 4. Undercuts.
 - 5. Requirements for veneer matching.
 - 6. Doors to be factory finished and finish requirements.
 - 7. Fire-protection ratings for fire-rated doors.
- C. Samples for Verification:
 - 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For special warranty.
- B. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is a certified participant in AWI's Quality Certification Program.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4-inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section.
 - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 76.2-mm) span.
 - 2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
 - 3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1. Marshfield Door Systems (Masonite Corporation).
- B. Source Limitations: Obtain flush wood doors from single manufacturer.

2.2 FLUSH WOOD DOORS, GENERAL

- A. Quality Standard: In addition to requirements specified, comply with AWI's, "Architectural Woodwork Standards."
 - 1. Provide AWI Quality Certification Labels indicating that doors comply with requirements of grades specified.

2. Contract Documents contain selections chosen from options in quality standard and additional requirements beyond those of quality standard. Comply with those selections and requirements in addition to quality standard.
- B. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.
- C. Particleboard-Core Doors:
1. Particleboard: ANSI A208.1, Grade LD-1 or Grade LD-2, made with binder containing no urea-formaldehyde.
 2. Blocking: Provide wood blocking in particleboard-core doors as[needed to eliminate through-bolting hardware and as follows:
 - a. 5-inch (125-mm) top-rail blocking, in doors indicated to have closers.
 - b. 5-inch (125-mm) bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
 - c. 5-inch (125-mm) mid-rail blocking, in doors indicated to have exit devices.

2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH

- A. Interior Solid-Core Doors:
1. Grade: Premium, with Grade AA faces.
 2. Species: Cherry.
 3. Cut: Plain sliced (flat sliced).
 4. Veneer Layout: Provide sketch face veneer layout to simulate stile and rail doors, matching existing doors.
 5. Match between Panel Veneer Leaves: Book match.
 6. Exposed Vertical and Top Edges: Same species as faces or a compatible species - edge Type A.
 7. Core: Particleboard.
 8. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering. Faces are bonded to core using a hot press.
 9. Adhesives: Type I per WDMA T.M.-6.
 10. Applied Trim: Provide applied trim matching spectrum of veneers.
 - a. Provide trim profile to match existing doors.

2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.
1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.

2.5 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
 - 1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- B. Factory finish doors.
- C. Factory finish doors that are indicated to receive transparent finish.
- D. Factory finish doors where indicated in schedules or on Drawings as factory finished.
- E. Use only paints and coatings that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- F. Transparent Finish:
 - 1. Grade: Premium.
 - 2. Finish: AWI's or catalyzed polyurethane conversion varnish.
 - 3. Staining: Match existing doors.
 - 4. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
 - 1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Section 087111 "Door Hardware (Descriptive Specification)."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.

1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
 - a. Comply with NFPA 80 for fire-rated doors.
 2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

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SECTION 087111 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors.
 - b. Non-fire-rated sliding doors.
 - c. Other doors to the extent indicated.
 - 2. Electrified door hardware.

1.3 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Product Certificates: For electrified door hardware, signed by product manufacturer.
 - 1. Certify that door hardware approved for use on types and sizes of labeled fire doors complies with listed fire door assemblies.
- C. Qualification Data: For Installer and Architectural Hardware Consultant.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, delayed-egress locks and closers.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Other Action Submittals:
 - 1. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

- a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - b. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Fastenings and other pertinent information.
 - 5) Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - 6) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for door hardware.
 - 8) Door and frame sizes and materials.
 - 9) Description of each electrified door hardware function, including location, sequence of operation, and interface with other building control systems.
 - a) Sequence of Operation: Include description of component functions that occur in the following situations: authorized person wants to enter; authorized person wants to exit; unauthorized person wants to enter; unauthorized person wants to exit.
 - 10) List of related door devices specified in other Sections for each door and frame.
 - c. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.
2. Keying Schedule: Prepared by or under the supervision of Architectural Hardware Consultant, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 - 2. Installer shall have warehousing facilities in Project's vicinity.
 - 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 - 4. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
 - 1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.
- D. Keying Conference: Conduct conference at Project site. In addition to Owner, Contractor, and conference participants shall also include Installer's Architectural Hardware Consultant and Owner's security consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
 - 1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 - 2. Preliminary key system schematic diagram.
 - 3. Requirements for key control system.
 - 4. Address for delivery of keys.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to AOPC by registered mail or overnight package service.

1.6 COORDINATION

- A. Coordinate layout and installation of recessed pivots and closers with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 3.
- B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Electrical System Roughing-in: Coordinate layout and installation of electrified door hardware with connections to power supplies, fire alarm system and detection devices, access control system, security system and building control system.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of operators and door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 - 2. Warranty Period: One (1) year from date of Substantial Completion, except as follows:
 - a. Mechanical Locksets and Latches: Ten (10) years from date of Substantial Completion.
 - b. Manual Closers: Ten (10) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section and door hardware sets indicated in Part 3 "Door Hardware Sets" Article.
 - 1. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Sets" Article. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Sets" Article.
- C. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 HINGES, GENERAL

- A. Quantity: Provide the following, unless otherwise indicated:
 - 1. Two Hinges: For doors with heights up to 60 inches (1524 mm).
 - 2. Three Hinges: For doors with heights 61 to 90 inches (1549 to 2286 mm).
 - 3. Four Hinges: For doors with heights 91 to 120 inches (2311 to 3048 mm).
 - 4. For doors with heights more than 120 inches (3048 mm), provide 4 hinges, plus 1 hinge for every 30 inches (750 mm) of door height greater than 120 inches (3048 mm).

- B. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Hinge Weight: Unless otherwise indicated, provide the following:
 - 1. Entrance Doors: Heavy-weight hinges.
 - 2. Doors with Closers: Antifriction-bearing hinges.
 - 3. Interior Doors: Standard-weight hinges.
- D. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - 1. Interior Hinges: Steel, with steel pin.
- E. Hinge Options: Where indicated in door hardware sets or on Drawings:
 - 1. Corners: Square.
- F. Electrified Functions for Hinges: Comply with the following:
 - 1. Power Transfer: Concealed PTFE-jacketed wires, secured at each leaf and continuous through hinge knuckle.
 - 2. Monitoring: Concealed electrical monitoring switch.
 - 3. Power Transfer and Monitoring: Concealed PTFE-jacketed wires, secured at each leaf and continuous through hinge knuckle, and with concealed electrical monitoring switch.
- G. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - 2. Wood Screws: For wood doors and frames.
 - 3. Screws: Phillips flat-head; machine screws (drilled and tapped holes) for metal doors. Finish screw heads to match surface of hinges.

2.3 HINGES

- A. Butts and Hinges: BHMA A156.1.
- B. Template Hinge Dimensions: BHMA A156.7.
- C. Manufacturers:
 - 1. Bommer Industries, Inc
 - 2. Hager Companies
 - 3. McKinney Products Company (Specified)

2.4 LOCKS AND LATCHES, GENERAL

- A. Accessibility Requirements: Where indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG).", ANSI A117.1.
 - 1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).

- B. Latches and Locks for Means of Egress Doors: Comply with NFPA 101. Latches shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.
- C. Electrified Locking Devices: BHMA A156.25.
- D. Lock Trim:
 - 1. Levers: Cast.
 - a. Sargent Manufacturing 8200 series LNB design.
 - 2. Knobs: Cast.
 - 3. Escutcheons (Roses): Wrought.
 - 4. Dummy Trim: Match lever lock trim and escutcheons.
- E. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
 - 1. Mortise Locks: Minimum 3/4-inch (19-mm) latchbolt throw.
 - 2. Deadbolts: Minimum 1-inch (25-mm) bolt throw.
- F. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.
- G. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, and as follows:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 2. Strikes for Auxiliary Deadlocks: BHMA A156.5.
 - 3. Flat-Lip Strikes: For locks as recommended by manufacturer.
 - 4. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.

2.5 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:
 - 1. Mortise Locks: BHMA A156.13.
- B. Mortise Locks: Stamped steel case with steel or brass parts; BHMA A156.13, Grade 1 Series 1000. Listed under Category F in BHMA's "Certified Product Directory."
 - 1. Manufacturers:
 - a. **SARGENT Manufacturing Company, 8200 series (Specified) NO SUBSTITUTIONS**

2.6 LOCK CYLINDERS

- A. Standard Lock Cylinders: BHMA A156.5, Grade 1.

- B. Cylinders: Manufacturer's standard Patented tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
 - 1. Number of Pins: Seven.
 - 2. Mortise Type: Threaded cylinders with rings and straight- or clover-type cam.
 - 3. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
- C. Permanent Cores: Manufacturer's standard Patented; finish face to match lockset; complying with the following:
- D. Construction Keying: Comply with the following:
 - 1. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.
 - a. Replace construction cores with permanent cores as directed by Owner.
- E. Manufacturers:
 - 1. Best Access Systems. **NO SUBSTITUTIONS**

2.7 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference, and as follows:
 - 1. Existing Key System: Cylinders are operated by a change key, a master key, a grand master key, and a great-grand master key.
- B. Keys: Nickel silver.
 - 1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
 - a. Notation: "DO NOT DUPLICATE."
 - 2. Quantity: In addition to one extra key blank for each lock, provide the following:
 - a. Cylinder Change Keys: Three.

2.8 OPERATING TRIM

- A. Standard: BHMA A156.6.
- B. Materials: Fabricate from stainless steel, unless otherwise indicated.
- C. Manufacturers:
 - 1. McKinney.
 - 2. Rockwood Manufacturing Company (Specified).
 - 3. Trimco.

2.9 EXIT DEVICES

- A. Exit Devices: BHMA A 156.3, Grade 1, Listed under Category G in BHMS's "Certified Product Directory."
- B. Accessibility Requirements: Where handles, pulls, latches, locks and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1.
 - 1. Provide operating devices that do not require tight grasping, pinching or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).
- C. Exit Devices for Means of Egress Doors: Comply with NFPA 101. Exit devices shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool or special knowledge for operation.
- D. Outside Trim: Lever with cylinder; material and finish to match locksets, unless otherwise indicated.
 - 1. Match design for locksets and latchsets, unless otherwise indicated.
- E. Through Bolts: Doors to be internally reinforced to eliminate through bolts.
- F. Manufacturers:
 - 1. SARGENT Manufacturing Company6, 80 Series x ET trim. **NO SUBSTITUTIONS**

2.10 CLOSERS

- A. Accessibility Requirements: Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)." ANSI A117.1.
 - 1. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
 - b. Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
 - c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
- C. Hold-Open Closers/Detectors: Coordinate and interface integral smoke detector and closer device with fire alarm system.
- D. Power-Assist Closers: As specified in Division 8 Section "Automatic Door Operators" for access doors for people with disabilities or where listed in the door hardware sets.

- E. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- F. Surface Closers: BHMA A156.4, Grade 1. Listed under Category C in BHMA's "Certified Product Directory." Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.
 - 1. Manufacturers:
 - a. Norton Door Controls, 7500 series (Specified)
 - b. Yale Commercial Locks and Hardware, 4400 series
- G. Coordinators: BHMA A156.3.

2.11 PROTECTIVE TRIM UNITS

- A. Size: 2 inches less than door width on push side and 1 inch less than door width on pull side, by height specified in door hardware sets.
- B. Fasteners: Manufacturer's standard machine or self-tapping screws.
- C. Metal Protective Trim Units: BHMA A156.6; beveled 4 sides; fabricated from:
 - 1. Material: 0.050-inch- (1.3-mm-) thick stainless steel.
 - 2. Manufacturers:
 - a. McKinney
 - b. Rockwood Manufacturing Company (Specified)
 - c. Trimco

2.12 STOPS AND HOLDERS

- A. Stops and Bumpers: BHMA A156.16, Grade 1.
 - 1. Provide wall stops for doors unless floor or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Where floor or wall stops are not appropriate, provide overhead holders.
- B. Combination Overhead Stops and Holders: BHMA A156.8, Grade 1.
- C. Electromagnetic Door Holders: BHMA A156.15. Listed under Category C in BHMA's "Certified Product Directory."
 - 1. Coordinate with fire detectors and interface with fire alarm system for labeled fire door assemblies.
- D. Silencers for Metal Door Frames: BHMA A156.16, Grade 1; neoprene or rubber, minimum diameter 1/2 inch (13 mm); fabricated for drilled-in application to frame.

- E. Wall and Floor Stop Manufacturers:
 - 1. McKinney.
 - 2. Rockwood Manufacturing Company (Specified)
 - 3. Trimco

- F. Overhead Stop Manufacturers:
 - 1. Glynn Johnson.
 - 2. Rixson Specialty Door Controls (Specified)
 - 3. SARGENT Manufacturing Company

2.13 DOOR GASKETING

- A. Standard: BHMA A156.22. Listed under Category J in BHMA's "Certified Product Directory."
- B. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
 - 2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
 - 3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.
- C. Air Leakage: Not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated, based on testing according to ASTM E 1408.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Gasketing Materials: ASTM D 2000 and AAMA 701/702.
- G. Manufacturers:
 - 1. McKinney.
 - 2. Pemko Manufacturing Co. (Specified).
 - 3. Reese Enterprises.

2.14 MISCELLANEOUS DOOR HARDWARE

- A. Boxed Power Supplies: Modular unit in NEMA ICS 6, Type 4 enclosure; filtered and regulated; voltage rating and type matching requirements of door hardware served; and listed and labeled for use with fire alarm systems.

2.15 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
 - 1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- C. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
 - 1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
 - 2. Steel Machine or Wood Screws: For the following fire-rated applications:
 - a. Mortise hinges to doors.
 - b. Strike plates to frames.
 - c. Closers to doors and frames.
 - 3. Steel Through Bolts: Doors to be internally reinforced to eliminate need for Through Bolts.
 - 4. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
 - 5. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."

2.16 FINISHES

- A. Standard: BHMA A156.18, as indicated in door hardware sets.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.
 - 1. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Boxed Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room. Verify location with Professional.
 - 1. Configuration: Provide one power supply for each door opening.
 - 2. Configuration: Provide the least number of power supplies required to adequately serve doors with electrified door hardware.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 2. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six (6) months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 1 Section "Demonstration and Training."

3.7 DOOR HARDWARE SETS

Manufacturer Abbreviations:

AR	Adams Rite
BE	Best Access Control
HBI	HB Ives
JO	Johnson
MC	McKinney
NO	Norton
PE	Pemko
RO	Rockwood
RX	Rixson
SA	Sargent
SN	Securitron
SO	SOSS

HARDWARE SET #1

2	Butt Hinges	TA3786 5 X 4 1/2, NRP	26D	MC
1	Electric Hinge	T4A3786 5 X 4 1/2 QC8	26D	MC
1	Interchangeable Core	AS SPECIFIED	26D	BE
1	Closer	7500 (Reg or P/A)	689	NO
1	Protection Plate	K1050 10" x 2" LDW x 4BE	US32D	RO
1	Wall Bumper	400	US26D	RO
3	Door Silencers	608	GREY	RO
1	Cable	52-2988 (15 FEET)		SA
1	Electrified Lockset	RX 72 8271 LNB	26D	SA
1	Door Cable	52-2985		SA
1	Power Supply	BPS-24-1		SN
1	Battery	B-24-4		SN
1	Concealed Switch	3287		SA

NOTES: 1. Electronic opening to operate as follows: Outside, Card reader signals power supply to release fail secure electric lock allowing entry by lever. Inside, Free egress at all times by lever. Switch in lever signals access control system of authorized exit. Coordinate with the .4 Contractor, door to be fail safe upon activation of the fire alarm system.

HARDWARE SET #2

6	Butt Hinges	TA2714 4 1/2 X 4 1/2, EXISTING	26D	MC
1	Set Automatic Lock	1842 / 1942, REMOVE	US26D	RO
1	Dust Proof Strike	570, EXISTING	US26D	RO
1	Classroom Lock	72 8237 LNB, REMOVE	26D	BE
1	Interchangeable Core	AS SPECIFIED, EXISTING	26D	BE
1	Coordinator	1600 Series x 1601 Brackets, REMOVE	PC	RO
1	Closer	7500 (P/A), EXISTING	689	NO
1	Closer	UNI-7500, REMOVE	689	NO
2	Protection Plates	K1010 10" x 1" LDW x B4E, EXISTING	US32D	RO
1	Wall Bumper	400, EXISTING	US26D	RO
2	Door Silencers	608, EXISTING	GREY	RO
1	Electric Hinge	TA3786 4 1/2 X 4 1/2 QC8	26D	MC
1	Cable	52-2988 (15 FEET)		SA
1	Electrified Lockset	RX 72 8271 LNB	26D	SA
1	Power Supply	BPS-24-1		SN
1	Battery	B-24-4		SN

NOTES: 1. RH active leaf, LH to be made inactive leaf.
2. Turn over all removed hardware to AOPC.
3. Remove center hinge on RH active leaf and turn over to AOPC. Install electric hinge.
4. Field drill door for cable as required.
5. Electronic opening to operate as follow: Outside, Card reader signals power supply to release fail secure electric lock allowing entry by lever. Inside, Free egress at all times by lever. Switch in lever signals access control system of authorized exit.

HARDWARE SET #3

2	Butt Hinges	T4A3786 4 1/2 X 4 1/2 NRP	26D	MC
1	Electric Hinge	T4A3786 4 1/2 X 4 1/2 QC8	26D	MC
1	Cable	52-2988 (15 FEET)		SA
1	Exit Device	72 55 12 8975 ETB	32D	SA
1	Interchangeable Core	AS SPECIFIED	26D	BE
1	Door Cable	52-2985		SA
1	Power Supply	BPS-24-2		SN
1	Battery	B-24-4		SN
1	Closer	7500 (Reg or P/A)	689	NO
1	Protection Plate	K1050 10" x 2" LDW x 4BE	US32D	RO
1	Wall Bumper	400	US26D	RO
1	Gasketing	S88 D (Head & Jambs)		SE
1	Concealed Switch	3287		SA
1	Wiring Diagram	WITH POINT TO POINT DRAWINGS		

NOTE: Electronic opening to operate as follow: Outside, Card reader signals power supply to release fail secure electric lock allowing entry by lever. Inside, Free egress at all times by exit device. Switch in rail signals access control system of authorized exit.

HARDWARE SET #4

3	Butt Hinges	TA2714 4 1/2 X 4 1/2, EXISTING	26D	MC
1	Office Lock	72 8205 LNB, REMOVE	26D	SA
1	Interchangeable Core	AS SPECIFIED, EXISTING	26D	BE
1	Wall Bumper	400, EXISTING	US26D	RO
3	Door Silencers	608, EXISTING	GREY	RO
1	Electric Hinge	TA3786 4 1/2 X 4 1/2 QC8	26D	MC
1	Cable	52-2988 (15 FEET)		SA
1	Electrified Lockset	RX 72 8271 LNB	26D	SA
1	Power Supply	BPS-24-1		SN
1	Battery	B-24-4		SN

NOTES: 1. Turn over all removed hardware to AOPC.
2. Remove center hinge and turn over to AOPC. Install electric hinge.
3. Field drill door for cable as required.
5. Electronic opening to operate as follow: Outside, Card reader signals power supply to release fail secure electric lock allowing entry by lever. Inside, Free egress at all times by lever. Switch in lever signals access control system of authorized exit.

HARDWARE SET #5

3	Butt Hinges	TA2714 4 1/2 X 4 1/2, EXISTING	26D	MC
1	Office Lock	72 8237 LNB, REMOVE	26D	SA
1	Interchangeable Core	AS SPECIFIED, EXISTING	26D	BE
1	Wall Bumper	400, EXISTING	US26D	RO
3	Door Silencers	608, EXISTING	GREY	RO
1	Electric Hinge	TA3786 4 1/2 X 4 1/2 QC8	26D	MC
1	Cable	52-2988 (15 FEET)		SA
1	Electrified Lockset	RX 72 8271 LNB	26D	SA
1	Power Supply	BPS-24-1		SN
1	Battery	B-24-4		SN

- NOTES: 1. Turn over all removed hardware to AOPC.
2. Remove center hinge and turn over to AOPC. Install electric hinge.
3. Field drill door for cable as required.
5. Electronic opening to operate as follow: Outside, Card reader signals power supply to release fail secure electric lock allowing entry by lever. Inside, Free egress at all times by lever. Switch in lever signals access control system of authorized exit.

HARDWARE SET #6

3	Butt Hinges	TA2714 4 1/2 X 4 1/2, EXISTING	26D	MC
1	Office Lock	72 8205 LNB	26D	SA
1	Interchangeable Core	AS SPECIFIED	26D	BE
1	Wall Bumper	400	US26D	RO
3	Door Silencers	608	GREY	RO

END OF SECTION 087111

FINISH SCHEDULE

ROOM No.	ROOM NAME	FLOORS				WALLS								CEILINGS		REMARKS (key at end of schedule)
		FLOOR		WALL BASE		NORTH		EAST		SOUTH		WEST		MAT'L	COLOR	
		MAT'L	COLOR	MAT'L	COLOR	MAT'L	COLOR	MAT'L	COLOR	MAT'L	COLOR	MAT'L	COLOR			
SECOND FLOOR																
B221C	AOPC Office	E-CPT	/	RES-1	A	E-GWB	P-5	GWB	P-5	GWB	P-5	GWB	P-5	APC	1	1, 2
B222D	AOPC Office	E-CPT	/	RES-1	A	E-GWB	P-5	GWB	P-5	GWB	P-5	GWB	P-5	APC	1	1, 2
SIXTH FLOOR																
B666	Legal Staff	E-CPT	/	E-RES	/	E-GWB	/	E- GWB	/	E- GWB	/	GWB	P-5	E-APC	/	1, 2, 3
EIGHTH FLOOR																
B817	Passage	E-CPT	1	WOOD	A	/	/	GWB	P-5	GWB	P-5	E-GWB	P-5	APC	1	2, 3, 4, 5

ABBREVIATIONS

APC Acoustical Panel Ceiling	E-APC Existing Acoustical Panel Ceiling
CFT Ceramic Floor Tile	E-CFT Existing Ceramic Floor Tile
CMU Concrete Masonry Unit	E-CMU Existing Concrete Masonry Unit
CPT Carpet	E-CPT Existing Carpet
CWT Ceramic Wall Tile	E-CWT Existing Ceramic Wall Tile
EXP Exposed Structure	
GWB Gypsum Wall Board	E-GWB Existing Gypsum Wall Board
P Paint (# indicates color; refer to spec)	
RES Resilient	E-RES Existing Resilient
VCT Vinyl Composition Tile	E-VCT Existing Vinyl Composition Tile

REMARKS KEY

- 1 Provide new resilient wall base on both sides of the new partition.
- 2 Paint both sides of all new partitions.
- 3 Re-work existing suspended ceiling as required to accommodate the new partition.
The General Contractor shall provide new suspension system materials as required.
The AOPC will provide any required new acoustical ceiling panels from their attic stock.
- 4 Paint the entire length of the west wall.
- 5 Provide wood base at both sides of new partitions.

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SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
 - 2. Suspension systems for interior gypsum ceilings, soffits, and grid systems.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 FRAMING SYSTEMS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized unless otherwise indicated.
- C. Studs and Runners: ASTM C 645. Use either steel studs and runners.
 - 1. Steel Studs and Runners:

- a. Minimum Base-Metal Thickness: 0.033 inch (22 gauge).
 - b. Depth: As indicated on Drawings.

- D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 - 1. Minimum Base-Metal Thickness: 0.033 inch (22 gauge).

- E. Cold-Rolled Channel Bridging: Steel, 0.053-inch (1.34-mm) minimum base-metal thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: 1-1/2 inches (38 mm).
 - 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38 by 38 mm), 0.068-inch- (1.72-mm-) thick, galvanized steel.

- F. Resilient Furring Channels: 1/2-inch- (13-mm-) deep, steel sheet members designed to reduce sound transmission.
 - 1. Configuration: Asymmetrical.

- G. Cold-Rolled Furring Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: 3/4 inch (19 mm).
 - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.033 inch (0.8 mm).
 - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.

2.3 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.

- B. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch (4.12 mm) in diameter.

- C. Flat Hangers: Steel sheet, 1 by 3/16 inch (25 by 5 mm) by length required.

- D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch (1.34 mm) and minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: 2-1/2 inches (64 mm).

- E. Furring Channels (Furring Members):
 - 1. Cold-Rolled Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges, 3/4 inch (19 mm) deep.
 - 2. Steel Studs and Runners: ASTM C 645.
 - a. Minimum Base-Metal Thickness: 0.033 inch (22 gauge).
 - b. Depth: 1-5/8 inches (41 mm).

3. Resilient Furring Channels: 1/2-inch- (13-mm-) deep members designed to reduce sound transmission.
 - a. Configuration: Asymmetrical.
 - F. Grid Suspension System for Gypsum Board Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Armstrong World Industries, Inc.; Drywall Grid Systems.
 - b. Chicago Metallic Corporation; Drywall Grid System.
 - c. USG Corporation; Drywall Suspension System.
- 2.4 AUXILIARY MATERIALS
- A. General: Provide auxiliary materials that comply with referenced installation standards.
 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.
- B. Coordination with Sprayed Fire-Resistive Materials:
 1. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Single-Layer Application: 24 inches (610 mm) o.c. unless otherwise indicated.
 - 2. Multilayer Application: 16 inches (406 mm) o.c. unless otherwise indicated.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- E. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.5 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Hangers: 48 inches (1219 mm) o.c.
 - 2. Carrying Channels (Main Runners): 48 inches (1219 mm) o.c.
 - 3. Furring Channels (Furring Members): 24 inches (610 mm) o.c.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
 - 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 5. Do not attach hangers to steel roof deck.
 - 6. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 - 7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
 - 8. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- E. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 092216

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SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
 - 2. Tile backing panels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 QUALITY ASSURANCE

- A. Mockups: Before beginning gypsum board installation, install mockups of at least 100 sq. ft. (9 sq. m) in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install mockups for the following:
 - a. Each level of gypsum board finish indicated for use in exposed locations.
 - 2. Apply or install final decoration indicated, including painting and wallcoverings, on exposed surfaces for review of mockups.
 - 3. Simulate finished lighting conditions for review of mockups.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1. American Gypsum.
 - 2. CertainTeed Corp.
 - 3. Georgia-Pacific Gypsum LLC.
 - 4. Lafarge North America Inc.
 - 5. National Gypsum Company.
 - 6. PABCO Gypsum.
 - 7. Temple-Inland.
 - 8. USG Corporation.
- B. Gypsum Wallboard: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch (12.7 mm).
 - 2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
- C. Gypsum Ceiling Board: ASTM C 1396/C 1396M.
 - 1. Thickness: 1/2 inch (12.7 mm).
 - 2. Long Edges: Tapered.

2.4 TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or 1325, with manufacturer's standard edges.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. C-Cure; C-Cure Board 990.
 - b. CertainTeed Corp.; FiberCement BackerBoard.
 - c. Custom Building Products; Wonderboard.
 - d. James Hardie Building Products, Inc. Hardiebacker 500.
 - e. National Gypsum Company, Permabase Cement Board.
 - f. USG Corporation; DUROCK Cement Board.
 - 2. Thickness: 1/2 inch.
 - 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.5 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
 - 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
- B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Fry Reglet Corp.
 - b. Gordon, Inc.
 - c. Pittcon Industries.
 - 2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221 (ASTM B 221M), Alloy 6063-T5.
 - 3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.

2.6 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:

1. Interior Gypsum Board: Paper.
 2. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
- D. Joint Compound for Tile Backing Panels:
1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- D. Acoustical Joint Sealant: Manufacturer's standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Accumetric LLC; BOSS 824 Acoustical Sound Sealant.
 - b. Grabber Construction Products; Acoustical Sealant GSC.
 - c. Pecora Corporation; AC-20 FTR.
 - d. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant.
 - e. USG Corporation; SHEETROCK Acoustical Sealant.

2. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
3. Acoustical joint sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 2. Fit gypsum panels around ducts, pipes, and conduits.
 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- H. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- I. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Wallboard Type: Vertical surfaces unless otherwise indicated.
 - 2. Ceiling Type: Ceiling surfaces.
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- C. Multilayer Application:
 - 1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches (400 mm) minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
 - 2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
 - 3. On Z-furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
 - 4. Fastening Methods: Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners.

3.4 APPLYING TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.
- B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners unless otherwise indicated.
 - 2. LC-Bead: Use at exposed panel edges.
 - 3. L-Bead: Use where indicated.
- C. Aluminum Trim: Install in locations indicated on Drawings or where required.

3.6 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for ceilings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, 6 inches (150 mm) in size.
- C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.
 - 1. Acoustical Panel: Set of 6-inch- (150-mm-) square samples of each type, color, pattern, and texture.
 - 2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch- (150-mm-) long Samples of each type, finish, and color.
- D. Qualification Data: For testing agency.
- E. Product Test Reports: For each acoustical panel ceiling, for tests performed by manufacturer and witnessed by a qualified testing agency.
- F. Evaluation Reports: For each acoustical panel ceiling suspension system and anchor and fastener type, from ICC-ES.
- G. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.
 - 2. Smoke-Developed Index: 50 or less.
- B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 ACOUSTICAL PANELS, GENERAL

- A. Low-Emitting Materials: Acoustical panel ceilings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- B. Source Limitations:
 - 1. Acoustical Ceiling Panel: Obtain each type from single source from single manufacturer.
 - 2. Suspension System: Obtain each type from single source from single manufacturer.
- C. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system from single source from single manufacturer.
- D. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches (400 mm) away from test surface according to ASTM E 795.
- E. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.
 - 1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.3 ACOUSTICAL PANELS APC-1

- A. Re-use existing grid components and supplement with new materials as required.
- B. Salvage and reuse existing acoustical panels. Supplement with new acoustical panels as follows:
 - 1. Turn over all unused existing panels, 12x24 or larger, to the AOPC for attic stock.
 - 2. The AOPC will provide panels from their attic stock in the event there are insufficient materials for salvaging of existing materials.

2.4 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.
- B. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- C. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 2. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.

3. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire but provide not less than 12-gauge diameter wire.

2.5 METAL SUSPENSION SYSTEM FOR APC-1

- A. Acceptable Manufacturers:
 1. Chicago Metallic Corporation.
 2. BPB Celotex.
 3. National Rolling Mills, Inc.
- B. Narrow-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, pre-painted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 coating designation, with prefinished 9/16-inch-wide metal caps on flanges.
 1. Structural Classification: Intermediate-duty system.
 2. End Condition of Cross Runners: Butt-edge type.
 3. Face Design: Flat, flush.
 4. Cap Material: Aluminum cold-rolled sheet.
 5. Cap Finish: Painted white.
- C. At Contractor's option, components of existing metal suspension systems may be salvaged and reused.

2.6 METAL EDGE MOLDINGS AND TRIM

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Armstrong World Industries, Inc.
 2. CertainTeed Corp.
 3. Chicago Metallic Corporation.
 4. Fry Reglet Corporation.
 5. Gordon, Inc.
 6. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
 1. Provide manufacturer's standard edge moldings that fit acoustical panel edge details and suspension systems indicated and that match width and configuration of exposed runners unless otherwise indicated.
 2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.

3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- C. Extruded-Aluminum Edge Moldings and Trim: Where indicated, provide manufacturer's extruded-aluminum edge moldings and trim of profile indicated or referenced by manufacturer's designations, including splice plates, corner pieces, and attachment and other clips, complying with seismic design requirements and the following:
1. Aluminum Alloy: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of aluminum extrusions complying with ASTM B 221 (ASTM B 221M) for Alloy and Temper 6063-T5.
 2. Baked-Enamel or Powder-Coat Finish: Minimum dry film thickness of 1.5 mils (0.04 mm). Comply with ASTM C 635/C 635M and coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
 3. Basis-of-Design Product: Subject to compliance with requirements, provide Axiom Classic Trim No. AX8STR; Armstrong World Industries, Inc.
 - a. Trim No. 1: No. AX8STR, Color WH "White."
 - b. Trim No. 2: No. AX12STR, Color WH "White."
 - c. Provide pre-mitered outside corners.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

1. Fire-Rated Assembly: Install fire-rated ceiling systems according to tested fire-rated design.
- B. Suspend ceiling hangers from building's structural members and as follows:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 6. Do not support ceilings directly from permanent metal forms or floor deck. Post-installed mechanical or power-actuated fasteners that extend through forms into concrete.
 7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 8. Do not attach hangers to steel deck tabs.
 9. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches (200 mm) from ends of each member.
 10. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or post-installed anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.2 mm in 3.6 m). Miter corners accurately and connect securely.
 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

- F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
1. Arrange directionally patterned acoustical panels as follows:
 - a. As indicated on reflected ceiling plans.
 - b. Install panels in a basket-weave pattern.
 2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
 3. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
 4. Protect lighting fixtures and air ducts to comply with requirements indicated for fire-resistance-rated assembly.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

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SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Resilient base.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of product indicated, in manufacturer's standard-size Samples but not less than 12 inches (300 mm) long, of each resilient product color, texture, and pattern required.

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg. F (10 deg. C) or more than 90 deg. F (32 deg. C).

1.6 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg. F (21 deg. C) or more than 95 deg. F (35 deg. C), in spaces to receive resilient products during the following time periods:

1. 48 hours before installation.
 2. During installation.
 3. 48 hours after installation.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg. F (13 deg. C) or more than 95 deg. F (35 deg. C).
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE RES-1

- A. Resilient Base:
1. Products: Provide products by the following. **NO SUBSTITUTIONS**
 - a. Roppe Corporation, USA.
- B. Resilient Base Standard: ASTM F 1861.
1. Material Requirement: Type TP (rubber, thermoplastic).
 2. Manufacturing Method: Group I (solid, homogeneous).
 3. Style: Cove (base with toe).
- C. Minimum Thickness: 0.125 inch (3.2 mm).
- D. Height: 4 inches (102 mm).
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Preformed.
- G. Inside Corners: Job formed or preformed.
- H. Finish: Matte.
- I. Colors and Patterns:
1. RES 1A: 191 Camel; Roppe Corporation.

2.2 INSTALLATION MATERIALS

- A. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.
- H. Job-Formed Corners:
 - 1. Inside Corners: Use straight pieces of maximum lengths possible.

END OF SECTION 096513

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SECTION 096816 - SHEET CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions,” “Special Requirements,” and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Tufted carpet.

1.3 SUBMITTALS

- A. Product Data: For the following, including installation recommendations for each type of substrate:
 - 1. Carpet: For each type indicated. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
- B. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 - 1. Carpet: 12-inch- (300-mm-) square Sample.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Sample Warranties: For special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Carpet: Full-width rolls equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced Installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI 104.

1.9 FIELD CONDITIONS

- A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period.
- C. Do not install carpet over concrete slabs until slabs have cured, are sufficiently dry to bond with adhesive, and have pH range recommended by carpet manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet, install carpet before installing these items.

1.10 WARRANTY

- A. Special Warranty for Carpet: Manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, loss of tuft bind strength, excess static discharge and delamination.
 - 3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CARPET CPT-4

- A. Products: Provide the following:
 - 1. Understated; Patcraft®.
 - a. Color/Pattern: No. 00111 “Cultured.”

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, non-staining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and is recommended or provided by carpet manufacturer.
 - 1. Use adhesives with VOC content not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Seam Adhesive: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for sealing and taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Preparation:
 - 1. Coordinate removal/relocation of furniture with the AOPC.
 - 2. Completely remove existing carpet.
- B. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Examine carpet for type, color, pattern, and potential defects.
- C. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
 - 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet manufacturer.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet manufacturer's written installation instructions for preparing substrates.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet manufacturer.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet.

3.3 INSTALLATION

- A. Comply with CRI 104 and carpet manufacturers' written installation instructions for the following:
 - 1. Double-Glue-Down Installation: Comply with CRI 104, Section 10, "Double-Glue-Down Installation."
- B. Comply with carpet manufacturer's written recommendations and Shop Drawings for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under the door in closed position.
- C. Do not bridge building expansion joints with carpet.
- D. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer.
- E. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non-staining marking device.
- G. Install pattern parallel to walls and borders to comply with CRI 104, Section 15, "Patterned Carpet Installations" and with carpet manufacturer's written recommendations.

3.4 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing carpet:

1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer.
 2. Remove yarns that protrude from carpet surface.
 3. Vacuum carpet using commercial machine with face-beater element.
- B. Protect installed carpet to comply with CRI 104, Section 16, "Protecting Indoor Installations."
- C. Protect carpet against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet and adhesive manufacturers.

END OF SECTION 096816

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SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on interior substrates:
 - 1. Gypsum board.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- C. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. VOC content.

1.4 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Professional will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
 - b. Provide one mock-up for each paint color.

2. Final approval of color selections will be based on mockups. Do not order paint materials until mock-ups have been approved.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Professional specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg. F (7 deg. C).
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg. F (10 and 35 deg. C).
- B. Do not apply paints when relative humidity exceeds 85 percent, at a temperature less than 5 deg. F (3 deg. C) above the dew point, or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Benjamin Moore & Co.
 2. ICI Paints.
 3. M.A.B. Paints.
 4. PPG Architectural Finishes, Inc.
 5. Pratt & Lambert.
 6. Sherwin-Williams Company (The).

2.2 PAINT, GENERAL

- A. Material Compatibility:
 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

- B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
1. Flat Paints and Coatings: 50 g/L.
 2. Non-flat Paints and Coatings: 150 g/L.
 3. Dry-Fog Coatings: 400 g/L.
 4. Primers, Sealers, and Undercoaters: 200 g/L.
 5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
 6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
 7. Pretreatment Wash Primers: 420 g/L.
 8. Floor Coatings: 100 g/L.
 9. Shellacs, Clear: 730 g/L.
 10. Shellacs, Pigmented: 550 g/L.
- C. Colors: Match Professional's samples.
1. P-1: SW7100 "Arcade White;" Sherwin Williams.
 2. P-2: Match existing wall color (original Color 2160-70 "Sugar Cookie;" Benjamin Moore).
 3. P-3: Match existing hollow metal frame color (original Color 2096-30 "Grandfather Clock Brown;" Benjamin Moore).
 4. P-4: HC-105 "Rockport Gray;" Benjamin Moore.
 5. P-5: 2160-60 "Kansas Grain;" Benjamin Moore.

2.3 PRIMERS/SEALERS

- A. Primer Sealer, Latex, Interior: ILP-1.
1. ProMar 200 Zero VOC Interior Latex Primer; Sherwin Williams.
- B. Primer Sealer: Latex, Interior: ILP-2.
1. Premium Wall and Wood Primer; Sherwin Williams.

2.4 WATER-BASED PAINTS

- A. Latex, Interior, Flat: IL-1.
1. ProMar 200 Zero VOC Flat; Sherwin Williams.
 2. For use on interior ceilings.
- B. Latex, Interior, Egg-Shell: IL-2.
1. ProMar 200 Zero VOC Interior Latex Eg-Shel; Sherwin Williams.
- C. Latex, Interior, Semi-Gloss: IL-3.
1. ProMar 200 Zero VOC Interior Latex Semi-Gloss; Sherwin Williams.
 2. For use on wood indicated to receive an opaque finish.

2.5 DIRECT TO METAL PAINT

A. Direct to Metal Acrylic Paint: DTM-1.

1. Pro Industrial DTM Acrylic Coating Semi-Gloss; Sherwin Williams.

2.6 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Wood: 15 percent.
 2. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Wood Substrates:
 - 1. Scrape and clean knots and apply coat of knot sealer before applying primer.
 - 2. Sand surfaces that will be exposed to view and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Gypsum Board Substrates:
 1. Latex System:
 - a. Prime Coat: One coat ILP-1.
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - 1) Walls: One coat IL-2.
 - 2) Ceilings: One coat IL-3.
 - c. Topcoat:
 - 1) Walls: One coat IL-2.
 - 2) Ceilings: One coat IL-3.
- B. Hollow Metal Frames and Doors:
 1. Latex System:
 - a. Prime Coat: Touch-up factory prime coat.
 - b. Intermediate Coat: DTM-1.
 - c. Top Coat: DTM-1.

END OF SECTION 099123

SECTION 211313 - WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes modification to the existing wet pipe sprinkler system including, but not limited to, the following:
 - 1. Pipes, fittings, and specialties.
 - 2. Sprinklers.

1.3 SYSTEM DESCRIPTIONS

- A. Wet-Pipe Sprinkler System: Automatic sprinklers are attached to piping containing water and that is connected to water supply through alarm valve. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device. Hose connections are included if indicated.

1.4 PERFORMANCE REQUIREMENTS

- A. Standard-Pressure Piping System Component: Listed for 175-psig (1200-kPa) minimum working pressure.
- B. Delegated Design: Contract drawings show the general intent for modifications to the existing wet pipe sprinkler system. Design modifications to existing sprinkler system(s), including comprehensive engineering analysis shall be performed by a qualified professional engineer, using performance requirements and design criteria indicated.
 - 1. As-built drawings of the existing sprinkler system are available from the Professional.
- C. Sprinkler system design shall be approved by authorities having jurisdiction.
 - 1. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.
 - 2. Sprinkler Occupancy Hazard Classifications:
 - a. Office and Public Areas: Light Hazard.

3. Minimum Density for Automatic-Sprinkler Piping Design:
 - a. Light-Hazard Occupancy: 0.10 gpm over 1500-sq. ft. area.
4. Maximum Protection Area per Sprinkler: Per UL listing.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications:
 1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.
 - a. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer.
- B. NFPA Standards: Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the following:
 1. NFPA 13, "Installation of Sprinkler Systems."

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Sprinkler Service: Do not interrupt sprinkler service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary sprinkler service according to requirements indicated:
 1. Notify AOPC no fewer than seven days in advance of proposed interruption of sprinkler service.
 2. Do not proceed with interruption of sprinkler service without AOPC's written permission.

1.8 COORDINATION

- A. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

2.2 STEEL PIPE AND FITTINGS

- A. Standard Weight, Black-Steel Pipe: ASTM A 53/A 53M, Type E, Grade B. Pipe ends may be factory or field formed to match joining method.
- B. Black-Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M, standard-weight, seamless steel pipe with threaded ends.
- C. Uncoated, Steel Couplings: ASTM A 865, threaded.
- D. Uncoated, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.
- E. Grooved-Joint, Steel-Pipe Appurtenances:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Anvil International, Inc.
 - b. Corcoran Piping System Co.
 - c. National Fittings, Inc.
 - d. Shurjoint Piping Products.
 - e. Tyco Fire & Building Products LP.
 - f. Victaulic Company.
 - 2. Pressure Rating: 175 psig minimum.
 - 3. Uncoated, Grooved-End Fittings for Steel Piping: ASTM A 47/A 47M, malleable-iron casting or ASTM A 536, ductile-iron casting; with dimensions matching steel pipe.
 - 4. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213, rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.

2.3 PIPING JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch (3.2 mm) thick or ASME B16.21, nonmetallic and asbestos free.
 - 1. Class 250, Cast-Iron Flanges and Class 300, Steel Raised-Face Flanges: Ring-type gaskets.
- B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

2.4 SPRINKLER SPECIALTY PIPE FITTINGS

A. Branch Outlet Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Anvil International, Inc.
 - b. National Fittings, Inc.
 - c. Shurjoint Piping Products.
 - d. Tyco Fire & Building Products LP.
 - e. Victaulic Company.
2. Standard: UL 213.
3. Pressure Rating: 175 psig.
4. Body Material: Ductile-iron housing with EPDM seals and bolts and nuts.
5. Type: Mechanical-T and -cross fittings.
6. Configurations: Snap-on and strapless, ductile-iron housing with branch outlets.
7. Size: Of dimension to fit onto sprinkler main and with outlet connections as required to match connected branch piping.
8. Branch Outlets: Grooved, plain-end pipe, or threaded.

B. Adjustable Drop Nipples:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CECA, LLC.
 - b. Corcoran Piping System Co.
 - c. Merit Manufacturing; a division of Anvil International, Inc.
2. Standard: UL 1474.
3. Pressure Rating: 250 psig (1725 kPa) minimum.
4. Body Material: Steel pipe with EPDM-rubber O-ring seals.
5. Size: Same as connected piping.
6. Length: Adjustable.
7. Inlet and Outlet: Threaded.

2.5 SPRINKLERS

- A. Product: Match existing sprinklers, No. TY3551 QR, Royal Flush II Quick Response Concealed Pendent Sprinkler; Tyco Fire & Building Product, LP.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Isolate and drain sections of existing sprinkler system as required to perform modifications to piping.
 - 1. Recharge system with water at the end of each work day.

3.2 PIPING INSTALLATION

- A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.
 - 1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Professional before deviating from approved working plans.
- B. Piping Standard: Comply with requirements for installation of sprinkler piping in NFPA 13.
- C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
- D. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.
- E. Fill sprinkler system piping with water.

3.3 JOINT CONSTRUCTION

- A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- D. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.
- E. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

- F. Twist-Locked Joints: Insert plain end of steel pipe into plain-end-pipe fitting. Rotate retainer lugs one-quarter turn or tighten retainer pin.
- G. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.
- H. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

3.4 SPRINKLER INSTALLATION

- A. Install sprinklers in suspended ceilings in center of acoustical ceiling panels.

3.5 IDENTIFICATION

- A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
 - 4. Coordinate with fire-alarm tests. Operate as required.
- C. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.7 CLEANING

- A. Clean dirt and debris from sprinklers.
- B. Remove and replace sprinklers with paint other than factory finish.

3.8 PIPING SCHEDULE

- A. Sprinkler specialty fittings may be used, downstream of control valves, instead of specified fittings.
- B. Standard-pressure, wet-pipe sprinkler system, NPS 2 (DN 50) and smaller, shall be one of the following:
 - 1. Standard-weight, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.

END OF SECTION 211313

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SECTION 230593 - TESTING, ADJUSTING AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section includes limited re-balancing of the portions of the HVAC System modified by this project:
 - 1. Balancing Air Systems:
 - a. Variable-air-volume systems, balance supply air to the unit.
 - b. All supply diffusers.

1.3 DEFINITIONS

- A. AABC: Associated Air Balance Council.
- B. NEBB: National Environmental Balancing Bureau.
- C. TAB: Testing, adjusting, and balancing.
- D. TABB: Testing, Adjusting, and Balancing Bureau.
- E. TAB Specialist: An entity engaged to perform TAB Work.

1.4 ACTION SUBMITTALS

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: Within 15 days of Contractor's Notice to Proceed, submit documentation that the TAB contractor and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.
- B. Certified TAB reports.
- C. Sample report forms.
- D. Instrument calibration reports, to include the following:

1. Instrument type and make.
2. Serial number.
3. Application.
4. Dates of use.
5. Dates of calibration.

1.6 QUALITY ASSURANCE

- A. TAB Contractor Qualifications: Engage a TAB entity certified by AABC, NEBB or TABB.
- B. Certify TAB field data reports and perform the following:
 1. Review field data reports to validate accuracy of data and to prepare certified TAB reports.
 2. Certify that the TAB team complied with the approved TAB plan and the procedures specified and referenced in this Specification.
- C. TAB Report Forms: Use standard TAB contractor's forms approved by.
- D. Instrumentation Type, Quantity, Accuracy, and Calibration: As described in ASHRAE 111, Section 5, "Instrumentation."
- E. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
- F. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.7.2.3 - "System Balancing."

1.7 COORDINATION

- A. Notice: Provide seven days' advanced notice for each test. Include scheduled test dates and times.
- B. Perform TAB after leakage and pressure tests on air distribution systems have been satisfactorily completed.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.

- B. Examine systems for installed balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are accessible.
 - C. Examine the approved submittals for HVAC systems and equipment.
 - D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems' output, and statements of philosophies and assumptions about HVAC system and equipment controls.
 - E. Examine ceiling plenums and return to verify that they meet the leakage class of connected ducts as specified in Section 233113 "Metal Ducts" and are properly separated from adjacent areas. Verify that penetrations in plenum walls are sealed and fire-stopped if required.
 - F. Examine equipment performance data including fan and pump curves.
 - 1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.
 - 2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design." Compare results with the design data and installed conditions.
 - G. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.
 - H. Examine test reports specified in individual system and equipment Sections.
 - I. Examine HVAC equipment and filters and verify that bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.
 - J. Examine terminal units, such as variable-air-volume boxes, and verify that they are accessible and their controls are connected and functioning.
 - K. Examine operating safety interlocks and controls on HVAC equipment.
 - L. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.
- 3.2 PREPARATION
- A. Prepare a TAB plan that includes strategies and step-by-step procedures.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance," ASHRAE 111, NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems." SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and in this Section.
 - 1. Comply with requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
- B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
 - 1. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
 - 2. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
 - 3. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish according to Section 230713 "Duct Insulation," Section 230716.
- C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.
- D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Crosscheck the summation of required outlet volumes with required fan volumes.
- B. Prepare schematic diagrams of systems' "as-built" duct layouts.
- C. For variable-air-volume systems, develop a plan to simulate diversity.
- D. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.
- E. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.
- F. Verify that motor starters are equipped with properly sized thermal protection.
- G. Check dampers for proper position to achieve desired airflow path.
- H. Check for airflow blockages.
- I. Check condensate drains for proper connections and functioning.
- J. Verify that air duct system is sealed as specified in Section 233113 "Metal Ducts."

3.5 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

- A. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows within specified tolerances to the two fan powered box terminal units.
 - 1. Measure airflow of submain and branch ducts.
 - a. Where sufficient space in submain and branch ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow for that zone.
 - 2. Measure static pressure at a point downstream from the balancing damper, and adjust volume dampers until the proper static pressure is achieved.
 - 3. Remeasure each submain and branch duct after all have been adjusted. Continue to adjust submain and branch ducts to indicated airflows within specified tolerances.
- B. Measure air outlets and inlets without making adjustments.
 - 1. Measure terminal outlets using a direct-reading hood or outlet manufacturer's written instructions and calculating factors.
- C. Adjust air outlets and inlets for each space to indicated airflows within specified tolerances of indicated values. Make adjustments using branch volume dampers rather than extractors and the dampers at air terminals.
 - 1. Adjust each outlet in same room or space to within specified tolerances of indicated quantities without generating noise levels above the limitations prescribed by the Contract Documents.
 - 2. Adjust patterns of adjustable outlets for proper distribution without drafts.

3.6 PROCEDURES FOR VARIABLE-AIR-VOLUME SYSTEMS

- A. Compensating for Diversity: When the total airflow of all terminal units is more than the indicated airflow of the fan, place a selected number of terminal units at a minimum set-point airflow with the remainder at maximum-airflow condition until the total airflow of the terminal units equals the indicated airflow of the fan. Select the reduced-airflow terminal units so they are distributed evenly among the branch ducts.
- B. Pressure-Independent, Variable-Air-Volume Systems: Adjust the variable-air-volume systems as follows:
 - 1. At terminal units, measure total system airflow. Adjust to within indicated airflow.
 - 2. Set terminal units at maximum airflow and adjust controller or regulator to deliver the designed maximum airflow. Use terminal-unit manufacturer's written instructions to make this adjustment. When total airflow is correct, balance the air outlets downstream from terminal units the same as described for constant-volume air systems.
 - 3. Set terminal units at minimum airflow and adjust controller or regulator to deliver the designed minimum airflow. Check air outlets for a proportional reduction in airflow the same as described for constant-volume air systems.
 - a. If air outlets are out of balance at minimum airflow, report the condition but leave outlets balanced for maximum airflow.

4. Remeasure the return airflow to the fan while operating at maximum return airflow and minimum outdoor airflow.
 - a. Adjust the fan and balance the return-air ducts and inlets the same as described for constant-volume air systems.
5. Measure static pressure at the most critical terminal unit and adjust the static-pressure controller at the main supply-air sensing station to ensure that adequate static pressure is maintained at the most critical unit.
6. Record final fan-performance data.

3.7 TOLERANCES

- A. Set HVAC system's air flow rates and water flow rates within the following tolerances:
 1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
 2. Air Outlets and Inlets: Plus or minus 10 percent.

3.8 FINAL REPORT

- A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
 1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
 2. Include a list of instruments used for procedures, along with proof of calibration.
- B. Final Report Contents: In addition to certified field-report data, include the following:
 1. Field test reports prepared by system and equipment installers.
 2. Other information relative to equipment performance; do not include Shop Drawings and product data.
- C. General Report Data: In addition to form titles and entries, include the following data:
 1. Title page.
 2. Name and address of the TAB contractor.
 3. Project name.
 4. Project location.
 5. Architect's name and address.
 6. Engineer's name and address.
 7. Contractor's name and address.
 8. Report date.
 9. Signature of TAB supervisor who certifies the report.
 10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
 11. Summary of contents including the following:

- a. Indicated versus final performance.
 - b. Notable characteristics of systems.
12. Description of system operation sequence if it varies from the Contract Nomenclature sheets for each item of equipment.
 13. Data for terminal units, including manufacturer's name, type, size, and fittings.
 14. Notes to explain why certain final data in the body of reports vary from indicated values.
 15. Test conditions for fans and pump performance forms including the following:
 - a. Settings for outdoor-, return-, and exhaust-air dampers.
 - b. Conditions of filters.
 - c. Cooling coil, wet- and dry-bulb conditions.
 - d. Face and bypass damper settings at coils.
 - e. Fan drive settings including settings and percentage of maximum pitch diameter.
 - f. Inlet vane settings for variable-air-volume systems.
 - g. Settings for supply-air, static-pressure controller.
 - h. Other system operating conditions that affect performance.
- D. Round, Flat-Oval, and Rectangular Duct Traverse Reports: Include a diagram with a grid representing the duct cross-section and record the following:
1. Report Data:
 - a. System and air-handling-unit number.
 - b. Location and zone.
 - c. Traverse air temperature in deg. F (deg. C).
 - d. Duct static pressure in inches wg (Pa).
 - e. Duct size in inches (mm).
 - f. Duct area in sq. ft. (sq. m).
 - g. Indicated air flow rate in cfm (L/s).
 - h. Indicated velocity in fpm (m/s).
 - i. Actual air flow rate in cfm (L/s).
 - j. Actual average velocity in fpm (m/s).
 - k. Barometric pressure in psig (Pa).
- E. Air-Terminal-Device Reports:
1. Unit Data:
 - a. System and air-handling unit identification.
 - b. Location and zone.
 - c. Apparatus used for test.
 - d. Area served.
 - e. Make.
 - f. Number from system diagram.
 - g. Type and model number.
 - h. Size.
 - i. Effective area in sq. ft. (sq. m).

2. Test Data (Indicated and Actual Values):
 - a. Air flow rate in cfm (L/s).
 - b. Air velocity in fpm (m/s).
 - c. Preliminary air flow rate as needed in cfm (L/s).
 - d. Preliminary velocity as needed in fpm (m/s).
 - e. Final air flow rate in cfm (L/s).
 - f. Final velocity in fpm (m/s).
 - g. Space temperature in deg. F (deg. C).
 - h. Documents.

END OF SECTION 230593

SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections "General Conditions", "Special Requirements", and "General Requirements" form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:

- 1. Single-wall rectangular ducts and fittings.
- 2. Single-wall round ducts and fittings.
- 3. Sheet metal materials.
- 4. Sealants and gaskets.
- 5. Hangers and supports.

- B. Related Sections:

- 1. Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
- 2. Section 233300 "Air Duct Accessories" for dampers, sound-control devices, duct-mounting access doors and panels, turning vanes, and flexible ducts.

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Duct Design: Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, shall comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and performance requirements and design criteria indicated in "Duct Schedule" Article.
- B. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of the following products:
 - 1. Sealants and gaskets.
- B. Shop Drawings:

1. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
2. Factory- and shop-fabricated ducts and fittings.
3. Duct layout indicating sizes, configuration, liner material, and static-pressure classes.
4. Elevation of top and bottom of ducts.
5. Dimensions of main duct runs from building grid lines.
6. Fittings.
7. Reinforcement and spacing.
8. Seam and joint construction.
9. Locations for duct accessories, including dampers, turning vanes, and access doors and panels.
10. Hangers and supports, including methods for duct and building attachment and vibration isolation.

C. Delegated-Design Submittal:

1. Sheet metal thicknesses.
2. Joint and seam construction and sealing.
3. Reinforcement details and spacing.
4. Materials, fabrication, assembly, and spacing of hangers and supports.
5. Design Calculations: Calculations, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation for selecting hangers and supports.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Duct installation in congested spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to duct layout.
2. Suspended ceiling components.
3. Structural members to which duct will be attached.
4. Size and location of initial access modules for acoustical tile.
5. Penetrations of smoke barriers and fire-rated construction.
6. Items penetrating finished ceiling including the following:
 - a. Lighting fixtures.
 - b. Air outlets and inlets.
 - c. Sprinklers.
 - d. Access panels.
 - e. Perimeter moldings.

B. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-up."
- B. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."

PART 2 - PRODUCTS

2.1 SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.
- B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.2 SINGLE-WALL ROUND DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 3, "Round, Oval, and Flexible Duct," based on indicated static-pressure class unless otherwise indicated.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Lindab Inc.
 - b. McGill AirFlow LLC.
 - c. SEMCO Incorporated.
 - d. Sheet Metal Connectors, Inc.
 - e. Spiral Manufacturing Co., Inc.

- B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-1, "Round Duct Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. Transverse Joints in Ducts Larger Than 60 Inches in Diameter: Flanged.
- C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-2, "Round Duct Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. Fabricate round ducts larger than 90 inches (2286 mm) in diameter with butt-welded longitudinal seams.
 - 2. Fabricate flat-oval ducts larger than 72 inches (1830 mm) in width (major dimension) with butt-welded longitudinal seams.
- D. Tees and Laterals: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G60.
 - 2. Finishes for Surfaces Exposed to View: Mill phosphatized.
- C. Factory- or Shop-Applied Antimicrobial Coating:
 - 1. Apply to the surface of sheet metal that will form the interior surface of the duct. An untreated clear coating shall be applied to the exterior surface.
 - 2. Antimicrobial compound shall be tested for efficacy by an NRTL and registered by the EPA for use in HVAC systems.
 - 3. Coating containing the antimicrobial compound shall have a hardness of 2H, minimum, when tested according to ASTM D 3363.
 - 4. Surface-Burning Characteristics: Maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
 - 5. Shop-Applied Coating Color: White.
 - 6. Antimicrobial coating on sheet metal is not required for duct containing liner treated with antimicrobial coating.

- D. Reinforcement Shapes and Plates: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
 - 1. Where black- and galvanized-steel shapes and plates are used to reinforce aluminum ducts, isolate the different metals with butyl rubber, neoprene, or EPDM gasket materials.
- E. Tie Rods: Galvanized steel, 1/4-inch (6-mm) minimum diameter for lengths 36 inches (900 mm) or less; 3/8-inch (10-mm) minimum diameter for lengths longer than 36 inches (900 mm).

2.4 SEALANT AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
- B. Water-Based Joint and Seam Sealant:
 - 1. Application Method: Brush on.
 - 2. Solids Content: Minimum 65 percent.
 - 3. Shore A Hardness: Minimum 20.
 - 4. Water resistant.
 - 5. Mold and mildew resistant.
 - 6. VOC: Maximum 75 g/L (less water).
 - 7. Maximum Static-Pressure Class: 10-inch wg (2500 Pa), positive and negative.
 - 8. Service: Indoor or outdoor.
 - 9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.
- C. Flanged Joint Sealant: Comply with ASTM C 920.
 - 1. General: Single-component, acid-curing, silicone, elastomeric.
 - 2. Type: S.
 - 3. Grade: NS.
 - 4. Class: 25.
 - 5. Use: O.
 - 6. For indoor applications, sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 7. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- D. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.
- E. Round Duct Joint O-Ring Seals:
 - 1. Seal shall provide maximum leakage class of 3 cfm/100 sq. ft. at 1-inch wg (0.14 L/s per sq. m at 250 Pa) and be rated for 10-inch wg (2500-Pa) static-pressure class, positive or negative.
 - 2. EPDM O-ring to seal in concave bead in coupling or fitting spigot.
 - 3. Double-lipped, EPDM O-ring seal, mechanically fastened to factory-fabricated couplings and fitting spigots.

2.5 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.
- B. Hanger Rods for Corrosive Environments: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
- C. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."
- D. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A 603.
- E. Steel Cables for Stainless-Steel Ducts: Stainless steel complying with ASTM A 492.
- F. Steel Cable End Connections: Cadmium-plated steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.
- G. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- H. Trapeze and Riser Supports:
 - 1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
 - 2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.
 - 3. Supports for Aluminum Ducts: Aluminum or galvanized steel coated with zinc chromate.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.
- B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install round and flat-oval ducts in maximum practical lengths.
- D. Install ducts with fewest possible joints.
- E. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- F. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.

- G. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- H. Install ducts with a clearance of 1 inch (25 mm), plus allowance for insulation thickness.
- I. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures.
- J. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches (38 mm).
- K. Where ducts pass through fire-rated interior partitions and exterior walls, install fire dampers. Comply with requirements in Section 233300 "Air Duct Accessories" for fire and smoke dampers.
- L. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."

3.2 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- B. Seal ducts to the following seal classes according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":
 - 1. Conditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg (500 Pa) and Lower: Seal Class C.
 - 2. Conditioned Space, Exhaust Ducts: Seal Class B.
 - 3. Conditioned Space, Return-Air Ducts: Seal Class C.

3.3 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 - 1. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches (100 mm) thick.
- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches (610 mm) of each elbow and within 48 inches (1200 mm) of each branch intersection.

- D. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at maximum intervals of 16 feet (5 m).
- E. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.4 CONNECTIONS

- A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Leakage Tests:
 - 1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
 - 2. Test the following systems:
 - a. Supply Ducts: Test representative duct sections totaling no less than 50 percent of total installed duct area for each designated pressure class.
 - 3. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
 - 4. Test for leaks before applying external insulation.
 - 5. Conduct tests at static pressures equal to maximum design pressure of system or section being tested. If static-pressure classes are not indicated, test system at maximum system design pressure. Do not pressurize systems above maximum design operating pressure.
 - 6. Give seven days' advanced notice for testing.
- C. Duct System Cleanliness Tests:
 - 1. Visually inspect duct system to ensure that no visible contaminants are present.
 - 2. Test sections of metal duct system, chosen randomly by Owner, for cleanliness according to "Vacuum Test" in NADCA ACR, "Assessment, Cleaning and Restoration of HVAC Systems."
 - a. Acceptable Cleanliness Level: Net weight of debris collected on the filter media shall not exceed 0.75 mg/100 sq. cm.
- D. Duct system will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.6 DUCT CLEANING

- A. Clean new and existing duct system(s) before testing, adjusting, and balancing.
- B. Use service openings for entry and inspection.
 - 1. Create new openings and install access panels appropriate for duct static-pressure class if required for cleaning access. Provide insulated panels for insulated or lined duct. Patch insulation and liner as recommended by duct liner manufacturer. Comply with Section 233300 "Air Duct Accessories" for access panels and doors.
 - 2. Disconnect and reconnect flexible ducts as needed for cleaning and inspection.
 - 3. Remove and reinstall ceiling to gain access during the cleaning process.
- C. Particulate Collection and Odor Control:
 - 1. When venting vacuuming system inside the building, use HEPA filtration with 99.97 percent collection efficiency for 0.3-micron-size (or larger) particles.
 - 2. When venting vacuuming system to outdoors, use filter to collect debris removed from HVAC system, and locate exhaust downwind and away from air intakes and other points of entry into building.
- D. Clean the following components by removing surface contaminants and deposits:
 - 1. Air outlets and inlets (registers, grilles, and diffusers).
 - 2. Supply, return, and exhaust fans including fan housings, plenums (except ceiling supply and return plenums), scrolls, blades or vanes, shafts, baffles, dampers, and drive assemblies.
 - 3. Air-handling unit internal surfaces and components including mixing box, coil section, air wash systems, spray eliminators, condensate drain pans, humidifiers and dehumidifiers, filters and filter sections, and condensate collectors and drains.
 - 4. Coils and related components.
 - 5. Return-air ducts, dampers, actuators, and turning vanes except in ceiling plenums and mechanical equipment rooms.
 - 6. Supply-air ducts, dampers, actuators, and turning vanes.
 - 7. Dedicated exhaust and ventilation components and makeup air systems.
- E. Mechanical Cleaning Methodology:
 - 1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
 - 2. Use vacuum-collection devices that are operated continuously during cleaning. Connect vacuum device to downstream end of duct sections so areas being cleaned are under negative pressure.
 - 3. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
 - 4. Clean fibrous-glass duct liner with HEPA vacuuming equipment; do not permit duct liner to get wet. Replace fibrous-glass duct liner that is damaged, deteriorated, or delaminated or that has friable material, mold, or fungus growth.
 - 5. Clean coils and coil drain pans according to NADCA 1992. Keep drain pan operational. Rinse coils with clean water to remove latent residues and cleaning materials; comb and straighten fins.

6. Provide drainage and cleanup for wash-down procedures.
7. Antimicrobial Agents and Coatings: Apply EPA-registered antimicrobial agents if fungus is present. Apply antimicrobial agents according to manufacturer's written instructions after removal of surface deposits and debris.

3.7 START UP

- A. Air Balance: Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC."

3.8 DUCT SCHEDULE

- A. Fabricate ducts with galvanized sheet steel
- B. Supply Ducts:
 1. Ducts Connected to VAV box and Fan Powered Box Terminal Units:
 - a. Pressure Class: Positive 1-inch wg.
 - b. Minimum SMACNA Seal Class: A.
 - c. SMACNA Leakage Class for Rectangular: 12.
- C. Exhaust Ducts:
 1. Ducts Connected to Fans Exhausting:
 - a. Pressure Class: Negative 2-inch wg.
 - b. Minimum SMACNA Seal Class: A.
 - c. SMACNA Leakage Class for Rectangular: 12.

END OF SECTION 233113

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:

- 1. Building wires and cables rated 600 V and less.
- 2. Connectors, splices, and terminations rated 600 V and less.

- B. Related Requirements:

- 1. Section 271500 "Communications Horizontal Cabling" for cabling used for voice and data circuits.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA or an NRTL.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Alcan Products Corporation; Alcan Cable Division.
 - 2. Alpha Wire.
 - 3. Belden Inc.
 - 4. Encore Wire Corporation.
 - 5. General Cable Technologies Corporation.
 - 6. Southwire Incorporated.
- B. Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658.
- C. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN-2-THWN-2.
- D. Multiconductor Cable: Comply with NEMA WC 70/ICEA S-95-658 for metal-clad cable, Type MC with ground wire.

2.2 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Gardner Bender.
 - 3. Hubbell Power Systems, Inc.
 - 4. Ideal Industries, Inc.
 - 5. IlSCO; a branch of Bardes Corporation.
 - 6. NSi Industries LLC.
 - 7. O-Z/Gedney; a brand of the EGS Electrical Group.
 - 8. 3M; Electrical Markets Division.
 - 9. Tyco Electronics.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Branch Circuits: Copper. Solid for No. 10 or No. 12 AWG and smaller; stranded for No. 8 or No. 10 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Exposed Branch Circuits: Type THHN-2-THWN-2, single conductors in raceway.
- B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-2-THWN-2, single conductors in raceway.
 - 1. Existing Partitions: Multiconductor cable, metal clad Type MC.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor and identify as spare conductor.

END OF SECTION 260519

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Construction requirements for concrete bases.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. IMC: Intermediate metal conduit.
- C. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design supports for multiple raceways, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- C. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- D. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.5 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Steel slotted support systems.
 - 2. Nonmetallic slotted support systems.

1.6 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.7 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

1.8 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified together with concrete Specifications.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.; a division of Cooper Industries.
 - c. ERICO International Corporation.
 - d. GS Metals Corp.
 - e. Thomas & Betts Corporation.
 - f. Unistrut; Tyco International, Ltd.
 - g. Wesanco, Inc.
 - 2. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - 3. Channel Dimensions: Selected for applicable load criteria.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- C. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Hilti Inc.
 - 2) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - 3) MKT Fastening, LLC.
 - 4) Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Cooper B-Line, Inc.; a division of Cooper Industries.
 - 2) Empire Tool and Manufacturing Co., Inc.
 - 3) Hilti Inc.
 - 4) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - 5) MKT Fastening, LLC.
3. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
5. Toggle Bolts: All-steel springhead type.
6. Hanger Rods: Threaded steel.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as scheduled in NECA 1, where its Table 1 lists maximum spacings less than stated in NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with two-bolt conduit clamps, single-bolt conduit clamps or single-bolt conduit clamps using spring friction action for retention in support channel.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 1. To Wood: Fasten with lag screws or through bolts.
 2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 3. To Existing Concrete: Expansion anchor fasteners.
 4. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
 5. To Steel: Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
 6. To Light Steel: Sheet metal screws.
 7. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Section 055000 "Metal Fabrications" for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- C. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

END OF SECTION 260529

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SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:

- 1. Metal conduits, tubing, and fittings for the following:
 - a. All power circuits.
 - b. All fire alarm cable.
 - c. Data cable within partitions to the nearest accessible ceiling.
- 2. Boxes, enclosures, and cabinets.

1.3 DEFINITIONS

- A. ARC: Aluminum rigid conduit.
- B. GRC: Galvanized rigid steel conduit.
- C. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Structural members in paths of conduit groups with common supports.
 - 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
- B. Qualification Data: For professional engineer.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. AFC Cable Systems, Inc.
 2. Allied Tube & Conduit; a Tyco International Ltd. Co.
 3. Anamet Electrical, Inc.
 4. Electri-Flex Company.
 5. O-Z/Gedney; a brand of EGS Electrical Group.
 6. Picoma Industries, a subsidiary of Mueller Water Products, Inc.
 7. Republic Conduit.
 8. Robroy Industries.
 9. Southwire Company.
 10. Thomas & Betts Corporation.
 11. Western Tube and Conduit Corporation.
 12. Wheatland Tube Company; a division of John Maneely Company.
- B. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. GRC: Comply with ANSI C80.1 and UL 6.
- D. EMT: Comply with ANSI C80.3 and UL 797.

2.2 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Adalet.
 2. Cooper Technologies Company; Cooper Crouse-Hinds.
 3. EGS/Appleton Electric.
 4. Erickson Electrical Equipment Company.
 5. FSR Inc.
 6. Hoffman; a Pentair company.
 7. Hubbell Incorporated; Killark Division.
 8. Kraloy.
 9. Milbank Manufacturing Co.
 10. Mono-Systems, Inc.
 11. O-Z/Gedney; a brand of EGS Electrical Group.
 12. RACO; a Hubbell Company.
 13. Robroy Industries.
 14. Spring City Electrical Manufacturing Company.
 15. Stahlin Non-Metallic Enclosures; a division of Robroy Industries.
 16. Thomas & Betts Corporation.
 17. Wiremold / Legrand.
- B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

- C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- D. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. (23 kg). Outlet boxes designed for attachment of luminaires weighing more than 50 lb. (23 kg) shall be listed and marked for the maximum allowable weight.
- E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- F. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- G. Device Box Dimensions: 4 inches by 2-1/8 inches by 2-1/8 inches deep (100 mm by 60 mm by 60 mm deep) for each device.
- H. Gangable boxes are allowed.
- I. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Indoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. New receptacles and switches: EMT.
 - 2. Light fixtures: EMT.
 - 3. Cable TV: EMT within partitions to above ceiling.
 - 4. Data/Voice Cable: EMT within partitions to above ceiling.
 - 5. Fire Alarm System: EMT.
 - 6. MC cable may be used for the following:
 - a. To fish circuits within existing partitions.
 - b. Final feed to light fixtures 8'-0" maximum.
 - 7. Boxes and enclosures: NEMA 250, Type 1.
- B. Minimum Raceway Size: 3/4-inch trade size.
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. EMT: Use compression, steel or cast-metal fittings. Comply with NEMA FB 2.10.
 - 2. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.
- G. Conceal conduit and EMT within finished walls and ceilings, unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches (300 mm) of enclosures to which attached.
- I. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT for raceways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- J. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- K. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- L. Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- M. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- N. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.

- O. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- P. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- Q. Locate boxes so that cover or plate will not span different building finishes.
- R. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- S. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies.

3.4 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 260533

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SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Miscellaneous identification products.

1.3 ACTION SUBMITTALS

- A. Product Data: For each electrical identification product indicated.
- B. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.4 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 POWER AND CONTROL RACEWAY IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Colors for Raceways Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system.
- C. Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing ends of legend label.
- D. Snap-Around Labels for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.2 METAL-CLAD CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each cable size.
- B. Colors for Cables Carrying Circuits at 600 V and Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system.

- C. Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing ends of legend label.
- D. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches (50 mm) wide; compounded for outdoor use.
- E. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tube with machine-printed identification label. Sized to suit diameter of and shrinks to fit firmly around cable it identifies. Full shrink recovery at a maximum of 200 deg. F (93 deg. C). Comply with UL 224.

2.3 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each cable size.
- B. Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing ends of legend label.
- C. Self-Adhesive, Self-Laminating Polyester Labels: Preprinted or Write-on, 3-mil- (0.08-mm-) thick flexible label with acrylic pressure-sensitive adhesive that provides a clear, weather- and chemical-resistant, self-laminating, protective shield over the legend. Labels sized to fit the cable diameter such that the clear shield overlaps the entire printed legend.
- D. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tube with machine-printed identification label. Sized to suit diameter of and shrinks to fit firmly around cable it identifies. Full shrink recovery at a maximum of 200 deg. F (93 deg. C). Comply with UL 224.

2.4 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
- B. Self-Adhesive, Self-Laminating Polyester Labels: Preprinted or Write-on, 3-mil- (0.08-mm-) thick flexible label with acrylic pressure-sensitive adhesive that provides a clear, weather- and chemical-resistant, self-laminating, protective shield over the legend. Labels sized to fit the conductor diameter such that the clear shield overlaps the entire printed legend.
- C. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of conductor it identifies and to stay in place by gripping action.
- D. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tube with machine-printed identification label. Sized to suit diameter of and shrinks to fit firmly around conductor it identifies. Full shrink recovery at a maximum of 200 deg. F (93 deg. C). Comply with UL 224.

2.5 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, Type 6/6 nylon.

1. Minimum Width: 3/16 inch (5 mm).
2. Tensile Strength at 73 deg. F (23 deg. C), According to ASTM D 638: 12,000 psi (82.7 MPa).
3. Temperature Range: Minus 40 to plus 185 deg. F (Minus 40 to plus 85 deg. C).
4. Color: Black except where used for color-coding.

B. Plenum-Rated Cable Ties: Self-extinguishing, UV stabilized, one piece, self-locking.

1. Minimum Width: 3/16 inch (5 mm).
2. Tensile Strength at 73 deg. F (23 deg. C), According to ASTM D 638: 7000 psi (48.2 MPa).
3. UL 94 Flame Rating: 94V-0.
4. Temperature Range: Minus 50 to plus 284 deg. F (Minus 46 to plus 140 deg. C).
5. Color: Black.

2.6 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- F. Attach plastic raceway and cable labels that are not self-adhesive type with clear vinyl tape with adhesive appropriate to the location and substrate.
- G. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.
- H. Cable Ties: For attaching tags. Use general-purpose type, except as listed below:
 1. In Spaces Handling Environmental Air: Plenum rated.

2.7 IDENTIFICATION SCHEDULE

- A. Accessible Raceways, Armored and Metal-Clad Cables: Self-adhesive vinyl labels. Install labels at 30-foot (10-m) maximum intervals.

- B. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30 A, and 120 V to ground: Identify with self-adhesive vinyl label or self-adhesive vinyl tape applied in bands. Install labels at 30-foot (10-m) maximum intervals.
- C. Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive vinyl labels with the wiring system legend and system voltage. System legends shall be as follows:
 - 1. Emergency Power.
 - 2. Power.
 - 3. UPS.
- D. Power-Circuit Conductor Identification, 600 V or Less: For conductors, pull and junction boxes, use color-coding conductor tape to identify the phase.
 - 1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded branch-circuit conductors.
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Colors for 480/277-V Circuits:
 - 1) Phase A: Brown.
 - 2) Phase B: Orange.
 - 3) Phase C: Yellow.
 - d. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- E. Branch Circuit Identification: Provide labels on the back of the cover plate for each receptacle, switch, junction box, etc., providing the following information:
 - 1. Panel and Branch Circuit No.
 - 2. Panel Location (Room No.).

END OF SECTION 260553

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SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
 - 2. Communications outlets.
 - 3. Floor service outlets, poke-through assemblies, service poles, and multioutlet assemblies.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing-label warnings and instruction manuals that include labeling conditions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper).
 - 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 - 3. Leviton Mfg. Company Inc. (Leviton).
 - 4. Pass & Seymour/Legrand (Pass & Seymour).
- B. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.
- C. Devices that are manufactured for use with modular plug-in connectors may be substituted under the following conditions:
 - 1. Connectors shall comply with UL 2459 and shall be made with stranding building wire.
 - 2. Devices shall comply with the requirements in this Section.

2.3 STRAIGHT-BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; 5351 (single), CR5362 (duplex).
 - b. Hubbell; HBL5351 (single), HBL5352 (duplex).
 - c. Leviton; 5891 (single), 5352 (duplex).
 - d. Pass & Seymour; 5361 (single), 5362 (duplex).

2.4 GFCI RECEPTACLES

- A. General Description:
 - 1. Straight blade, non-feed-through type.
 - 2. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596.
 - 3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.

B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; VGF20.
 - b. Hubbell; GFR5352L.
 - c. Pass & Seymour; 2095.
 - d. Leviton; 7590.
2. At locations for wall-mounted TV monitors, provide recessed type receptacle with 120V power and cable TV.

2.5 TOGGLE SWITCHES

A. Comply with NEMA WD 1, UL 20, and FS W-S-896.

B. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Single Pole:
 - a) Cooper; AH1221.
 - b) Hubbell; HBL1221.
 - c) Leviton; 1221-2.
 - d) Pass & Seymour; CSB20AC1.
 - b. Where noted, provide an adjustable timer type switch.

2.6 WALL PLATES

A. Single and combination types shall match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: Satin-finished, Type 302 stainless steel, 0.04-inch-thick, brushed brass with factory polymer finish.

2.7 POKE-THROUGH ASSEMBLIES

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated below or comparable product by one of the following:

1. Hubbell Incorporated; Wiring Device-Kellems.
2. Pass & Seymour/Legrand.

B. Description:

1. Factory-fabricated and -wired assembly of below-floor junction box with multi-channelled, through-floor raceway/firestop unit and detachable matching floor service-outlet assembly.
 2. Comply with UL 514 scrub water exclusion requirements.
 3. Service-Outlet Assembly: Flush type with two duplex receptacles and space for up to six RJ-45 jacks complying with requirements in Section 271500 "Communications Horizontal Cabling."
 4. Size: Selected to fit nominal 8-inch cored holes in floor and matched to floor thickness.
 5. Fire Rating: Unit is listed and labeled for fire rating of floor-ceiling assembly.
 6. Closure Plug: Arranged to close unused 8-inch cored openings and reestablish fire rating of floor.
 7. Wiring Raceways and Compartments: For a minimum of four No. 12 AWG conductors and a minimum of six, four-pair cables that comply with requirements in Section 271500 "Communications Horizontal Cabling."
- C. Basis-of-Design Product: 8ATCBZ with 8ACT6A center device mounting plate for communication devices; Wiremold/Legrand.

2.8 FINISHES

- A. Device Color:
1. Wiring Devices Connected to Normal Power System: As follows:
 - a. Normal Power Receptacles: Gray.
 - b. Receptacles powered from "Computer Panel," 'C' designation: Blue.
 2. Isolated-Ground Receptacles: Orange.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:

1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
4. Existing Conductors:
 - a. Cut back and pigtail or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtailling existing conductors is permitted, provided the outlet box is large enough.

D. Device Installation:

1. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
2. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
3. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
4. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
5. Use a torque screwdriver when a torque is recommended or required by manufacturer.
6. Tighten unused terminal screws on the device.
7. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin to match existing receptacles.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multi-gang wall plates.

3.2 GFCI RECEPTACLES

- A. Install non-feed-through-type GFCI receptacles where protection of downstream receptacles is not required.

3.3 IDENTIFICATION

- A. Comply with Section 260553 "Identification for Electrical Systems."

- B. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black, white, red-filled lettering on back of plate, and durable wire markers or tags inside outlet boxes.

3.4 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. Test Instruments: Use instruments that comply with UL 1436.
 - 2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.
- B. Tests for Convenience Receptacles:
 - 1. Line Voltage: Acceptable range is 105 to 132 V.
 - 2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
 - 3. Ground Impedance: Values of up to 2 ohms are acceptable.
 - 4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
 - 5. Using the test plug, verify that the device and its outlet box are securely mounted.
 - 6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
- C. Wiring device will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 262726

SECTION 271500 - COMMUNICATIONS HORIZONTAL CABLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. Section Includes:
 - 1. UTP cabling for data, voice and security systems.
 - 2. Coaxial cable.
 - 3. Multiuser telecommunications outlet assemblies.
 - 4. Cable connecting hardware.
 - 5. Telecommunications outlet/connectors.
 - 6. Cabling system identification products.

1.3 DEFINITIONS

- A. BICSI: Building Industry Consulting Service International.
- B. Consolidation Point: A location for interconnection between horizontal cables extending from building pathways and horizontal cables extending into furniture pathways.
- C. Cross-Connect: A facility enabling the termination of cable elements and their interconnection or cross-connection.
- D. EMI: Electromagnetic interference.
- E. IDC: Insulation displacement connector.
- F. LAN: Local area network.
- G. MUTOA: Multiuser telecommunications outlet assembly, a grouping in one location of several telecommunications outlet/connectors.
- H. Outlet/Connectors: A connecting device in the work area on which horizontal cable or outlet cable terminates.
- I. RCDD: Registered Communications Distribution Designer.
- J. UTP: Unshielded twisted pair.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate layout and installation of telecommunications cabling with Owner's telecommunications and LAN equipment and service suppliers.
- B. Coordinate telecommunications outlet/connector locations with location of power receptacles at each work area.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. For coaxial cable, include the following installation data for each type used:
 - a. Nominal OD.
 - b. Minimum bending radius.
 - c. Maximum pulling tension.
 - 2. Patch panels. Detail mounting assemblies and show elevations and physical relationship between the installed components.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, qualified layout technician, installation supervisor, and field inspector.
- B. Source quality-control reports.
- C. Field quality-control reports.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For splices and connectors to include in maintenance manuals.
- B. Software and Firmware Operational Documentation:
 - 1. Software operating and upgrade manuals.
 - 2. Program Software Backup: On magnetic media or compact disk, complete with data files.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: Cabling Installer must have personnel certified by BICSI on staff.
 - 1. Layout Responsibility: Preparation of Shop Drawings and Cabling Administration Drawings, Cabling Administration Drawings, and field testing program development by an RCDD.

2. Installation Supervision: Installation shall be under the direct supervision of Registered Technician, who shall be present at all times when Work of this Section is performed at Project site.
3. Testing Supervisor: Currently certified by BICSI as an RCDD to supervise on-site testing.

B. Testing Agency Qualifications: An NRTL.

1. Testing Agency's Field Supervisor: Currently certified by BICSI as an RCDD to supervise on-site testing.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Test cables upon receipt at Project site.

PART 2 - PRODUCTS

2.1 HORIZONTAL CABLING DESCRIPTION

- A. Horizontal cable and its connecting hardware provide the means of transporting signals between the telecommunications outlet/connector and the horizontal cross-connect located in the communications equipment room. This cabling and its connecting hardware are called a "permanent link," a term that is used in the testing protocols.
1. TIA/EIA-568-B.1 requires that a minimum of two telecommunications outlet/connectors be installed for each work area.
 2. Horizontal cabling shall contain no more than one transition point or consolidation point between the horizontal cross-connect and the telecommunications outlet/connector.
 3. Bridged taps and splices shall not be installed in the horizontal cabling.
 4. Splitters shall not be installed as part of the optical fiber cabling.
- B. A work area is approximately 100 sq. ft. (9.3 sq. m) and includes the components that extend from the telecommunications outlet/connectors to the station equipment.
- C. The maximum allowable horizontal cable length is 295 feet (90 m). This maximum allowable length does not include an allowance for the length of 16 feet (4.9 m) to the workstation equipment or in the horizontal cross-connect.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Horizontal cabling system shall comply with transmission standards in TIA/EIA-568-B.1 when tested according to test procedures of this standard.
- B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
1. Flame-Spread Index: 25 or less.
 2. Smoke-Developed Index: 50 or less.

- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Grounding: Comply with J-STD-607-A.

2.3 UTP CABLE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ADC.
 - 2. Belden Inc.
 - 3. Berk-Tek; a Nexans company.
 - 4. CommScope, Inc.
 - 5. Draka Cableteq USA.
 - 6. Genesis Cable Products; Honeywell International, Inc.
 - 7. Mohawk; a division of Belden Networking, Inc.
 - 8. Superior Essex Inc.
 - 9. SYSTIMAX Solutions; a CommScope, Inc. brand.
 - 10. 3M Communication Markets Division.
 - 11. Tyco Electronics Corporation; AMP Products.
- B. Description: 100-ohm, four-pair UTP, formed into 25-pair, binder groups covered with a blue thermoplastic jacket.
 - 1. Comply with ICEA S-90-661 for mechanical properties.
 - 2. Comply with TIA/EIA-568-B.1 for performance specifications.
 - 3. Comply with TIA/EIA-568-B.2, Category 6.
 - 4. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444 and NFPA 70 for the following types:
 - a. Multipurpose, Plenum Rated: Type MPP, complying with NFPA 262.

2.4 UTP CABLE HARDWARE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following except as noted otherwise:
 - 1. ADC.
 - 2. American Technology Systems Industries, Inc.
 - 3. Belden Inc.
 - 4. Dynacom Inc.
 - 5. Hubbell Premise Wiring.
 - 6. Leviton Commercial Networks Division.
 - 7. Molex Premise Networks; a division of Molex, Inc.
 - 8. Panduit Corp.
 - 9. Simon Co. (The).
 - 10. Tyco Electronics Corporation; AMP Products.

- B. General Requirements for Cable Connecting Hardware: Comply with TIA/EIA-568-B.2, IDC type, with modules designed for punch-down caps or tools. Cables shall be terminated with connecting hardware of same category or higher.
- C. Jacks and Jack Assemblies: Modular, color-coded, eight-position modular receptacle units with integral IDC-type terminals.

2.5 TELECOMMUNICATIONS OUTLET/CONNECTORS

- A. Jacks: 100-ohm, balanced, twisted-pair connector; four-pair, eight-position modular. Comply with TIA/EIA-568-B.1.
- B. Workstation Outlets: Two-port-connector assemblies mounted in single faceplate, except where additional port connectors are indicated on the drawings.
 - 1. Metal Faceplate: Stainless steel, complying with requirements in Section 262726 "Wiring Devices."
 - 2. For use with snap-in jacks accommodating any combination of UTP, optical fiber, and coaxial work area cords.
 - a. Flush mounting jacks, positioning the cord at a 45-degree angle.
 - 3. Legend: Machine printed, in the field, using adhesive-tape label.
 - 4. Legend: Snap-in, clear-label covers and machine-printed paper inserts.

2.6 GROUNDING

- A. Comply with J-STD-607-A.

2.7 IDENTIFICATION PRODUCTS

- A. Comply with TIA/EIA-606-A and UL 969 for labeling materials, including label stocks, laminating adhesives, and inks used by label printers.
- B. Comply with requirements in Section 260553 "Identification for Electrical Systems."

2.8 SOURCE QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate cables.
- B. Factory test UTP and optical fiber cables on reels according to TIA/EIA-568-B.1.
- C. Factory test UTP cables according to TIA/EIA-568-B.2.
- D. Factory-sweep test coaxial cables at frequencies from 5 MHz to 1 GHz. Sweep test shall test the frequency response, or attenuation over frequency, of a cable by generating a voltage whose frequency is varied through the specified frequency range and graphing the results.

- E. Cable will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXISTING SYSTEM

- A. The communications horizontal cabling is an extension of an existing system. Coordinate installation with the AOPC IT staff.

3.2 WIRING METHODS

- A. Install cables in accessible ceiling spaces. In gypsum board partitions install cables in raceways.
 - 1. Install plenum cable in ceilings.
 - 2. Comply with requirements in Section 260533 "Raceways for Electrical Systems."
- B. Conceal conductors and cables in accessible ceilings and walls.
- C. Wiring within Enclosures:
 - 1. Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii.
 - 2. Install lacing bars and distribution spools.
 - 3. Install conductors parallel with or at right angles to sides and back of enclosure.

3.3 INSTALLATION OF CABLES

- A. Comply with NECA 1.
- B. General Requirements for Cabling:
 - 1. Comply with TIA/EIA-568-B.1.
 - 2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
 - 3. Terminate conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets and patch panels.
 - 4. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches (760 mm) and not more than 6 inches (150 mm) from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
 - 5. Install lacing bars to restrain cables, to prevent straining connections, and to prevent bending cables to smaller radii than minimums recommended by manufacturer.
 - 6. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM, "Cabling Termination Practices" Chapter. Install lacing bars and distribution spools.
 - 7. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.

8. Cold-Weather Installation: Bring cable to room temperature before de-reeling. Heat lamps shall not be used for heating.
9. In the communications equipment room, install a 10-foot- (3-m-) long service loop on each end of cable.
10. At systems furniture, provide 20 feet of spare cable in the initial rough-in cable pull for fishing through systems furniture raceways.
11. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions.

C. UTP Cable Installation:

1. Comply with TIA/EIA-568-B.2.
2. Do not untwist UTP cables more than 1/2 inch (12 mm) from the point of termination to maintain cable geometry.

D. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
2. Suspend UTP cable not in a wireway or pathway a minimum of 8 inches (200 mm) above ceilings by cable supports not more than 60 inches (1524 mm) apart.
3. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.

E. Group connecting hardware for cables into separate logical fields.

F. Separation from EMI Sources:

1. Comply with BICSI TDMM and TIA-569-B for separating unshielded copper voice and data communication cable from potential EMI sources, including electrical power lines and equipment.
2. Separation between open communications cables or cables in nonmetallic raceways and unshielded power conductors and electrical equipment shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches (127 mm).
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches (300 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches (610 mm).
3. Separation between communications cables in grounded metallic raceways and unshielded power lines or electrical equipment shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches (64 mm).
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches (150 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches (300 mm).

4. Separation between communications cables in grounded metallic raceways and power lines and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches (76 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches (150 mm).
5. Separation between Communications Cables and Electrical Motors and Transformers, 5 kVA or HP and Larger: A minimum of 48 inches (1200 mm).
6. Separation between Communications Cables and Fluorescent Fixtures: A minimum of 5 inches (127 mm).

3.4 FIRESTOPPING

- A. Comply with TIA-569-B, Annex A, "Firestopping."
- B. Comply with BICSI TDMM, "Firestopping Systems" Article.

3.5 IDENTIFICATION

- A. Identify system components, wiring, and cabling complying with TIA/EIA-606-A. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
 1. Administration Class: 1.
 2. Color-code cross-connect fields. Apply colors to voice and data service backboards, connections, covers, and labels.
- B. Coordinate with AOPC IT staff to add new cable information to the AOPC's existing cable management system.
- C. Cable and Wire Identification:
 1. Label each cable within 4 inches (100 mm) of each termination and tap, where it is accessible in a cabinet or junction or outlet box, and elsewhere as indicated.
 2. Each wire connected to building-mounted devices is not required to be numbered at device if color of wire is consistent with associated wire connected and numbered within panel or cabinet.
 3. Exposed Cables and Cables in Cable Trays and Wire Troughs: Label each cable at intervals not exceeding 15 feet (4.5 m).
 4. Label each terminal strip and screw terminal in each cabinet, rack, or panel.
 - a. Individually number wiring conductors connected to terminal strips and identify each cable or wiring group being extended from a panel or cabinet to a building-mounted device shall be identified with name and number of particular device as shown.
 - b. Label each unit and field within distribution racks and frames.

5. Identification within Connector Fields in Equipment Rooms and Wiring Closets: Label each connector and each discrete unit of cable-terminating and connecting hardware. Where similar jacks and plugs are used for both voice and data communication cabling, use a different color for jacks and plugs of each service.
 6. Uniquely identify and label work area cables extending from the MUTOA to the work area. These cables may not exceed the length stated on the MUTOA label.
- D. Labels shall be preprinted or computer-printed type with printing area and font color that contrasts with cable jacket color but still complies with requirements in TIA/EIA-606-A.
1. Cables use flexible vinyl or polyester that flex as cables are bent.

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections:
1. Visually inspect UTP and optical fiber cable jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments and inspect cabling connections for compliance with TIA/EIA-568-B.1.
 2. Visually confirm Category 6, marking of outlets, cover plates, outlet/connectors, and patch panels.
 3. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
 4. Test UTP backbone copper cabling for DC loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination but not cross-connection.
 - a. Test instruments shall meet or exceed applicable requirements in TIA/EIA-568-B.2. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
5. UTP Performance Tests:
- a. Test for each outlet and MUTOA. Perform the following tests according to TIA/EIA-568-B.1 and TIA/EIA-568-B.2:
 - 1) Wire map.
 - 2) Length (physical vs. electrical, and length requirements).
 - 3) Insertion loss.

- 4) Near-end crosstalk (NEXT) loss.
 - 5) Power sum near-end crosstalk (PSNEXT) loss.
 - 6) Equal-level far-end crosstalk (ELFEXT).
 - 7) Power sum equal-level far-end crosstalk (PSELFEXT).
 - 8) Return loss.
 - 9) Propagation delay.
 - 10) Delay skew.
6. Final Verification Tests: Perform verification tests for UTP systems after the complete communications cabling and workstation outlet/connectors are installed.
- a. Voice Tests: These tests assume that dial tone service has been installed. Connect to the network interface device at the demarcation point. Go off-hook and listen and receive a dial tone. If a test number is available, make and receive a local, long distance, and digital subscription line telephone call.
 - b. Data Tests: These tests assume the Information Technology Staff has a network installed and is available to assist with testing. Connect to the network interface device at the demarcation point. Log onto the network to ensure proper connection to the network.
- D. Document data for each measurement. Data for submittals shall be printed in a summary report that is formatted similar to Table 10.1 in BICSI TDMM, or transferred from the instrument to the computer, saved as text files, and printed and submitted.
- E. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.

END OF SECTION 271500

SECTION 283111 – DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The specification sections “General Conditions”, “Special Requirements”, and “General Requirements” form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.
- B. Scope of Work:
 - 1. The contractor shall furnish all labor, equipment, materials, programming and the performance of all operations in connection with the relocation of existing components and new components integrated into the existing Fire Alarm and Smoke Control systems for the Pennsylvania Judicial Center building in accordance with the contract drawings and/or herein specified.
 - 2. The manufacturer for the existing system is Siemens.
 - a. All new components shall be products of Siemens and fully compatible with the existing system.
- C. Related Sections:
 - 1. Comply with requirements of Section 260533 Raceways and Boxes for Electrical Systems. All fire alarm cable shall be run in conduit.

PART 2 - PRODUCTS

2.1 PERIPHERAL DEVICES

- A. Addressable Device Types:
 - 1. General:
 - a. The system control panel must be capable of communicating with the types of addressable devices specified below. Addressable devices will be located as shown on the drawings. The system shall have “individual” device addressability. Each system device shall have its own address
 - b. The sensors shall be Listed to UL Standard 268 and shall be documented compatible with the control equipment to which they are connected. The sensors shall be listed for both ceiling and wall mount applications.
 - c. Each sensor base shall contain an LED that will flash each time it is scanned by the control panel (once every 4 seconds). When the control panel determines that a sensor is in an alarm or a trouble condition, the control panel shall command the LED on that sensor’s base to turn on steady indicating the abnormal condition. Sensors, which do not provide a visible indication of an abnormal condition, are not acceptable.

- d. Sensor bases, where shown on the plans, shall be provided with a relay driver or sounder base output that is to be controlled either automatically or manually from the control panel.
- e. Each sensor shall be scanned by the control panel for its type identification to prevent inadvertent substitution of another sensor type. The control panel shall operate with the installed device but shall initiate a "Wrong Device" trouble condition until the proper type is installed or the programmed sensor type is changed.
- f. The sensor's electronics shall be immune from false alarm caused by EMI and RFI.

B. Combination Speaker/Strobe Assembly

- 1. Furnish and install where indicated on drawings combination "synchronized" speaker/strobe notification appliances. The strobe lens shall be clear and the housing engraved "FIRE." The strobe candela rating shall be provided in accordance with NFPA 72 and UL 1971 requirements. Speaker units shall be flush wall mounted units and operate on 25/70 VRMS with field selectable output taps from 0.5 to 2.0 watts. All speakers shall produce a nominal sound output of 84 dBA at 10 feet. Frequency response shall be a minimum of 400 HZ to 4000 HZ. The back of each speaker shall be sealed to protect the speaker cone from damage and dust.
- 2. All speaker/strobe devices installed, as surface mounted devices shall be mounted on a color-coordinated manufacturer's listed surface backbox. All speaker/strobe devices installed in locations exposed to the weather or installed in wet/damp locations shall be listed for that application and mounted on manufacturer's backbox listed for weather proof applications.

PART 3 - EXECUTION

3.1 COORDINATION

- A. Coordinate with Professional and other trades at the time of shop drawing submittals detailing space conditions to the satisfaction of all concerned trades, subject to final review by the Professional. If installation of equipment, raceways, cable trays and/or conduit is performed prior to coordination with other trades, which interferes with work of other trades, make necessary changes to correct the condition at no additional cost to the Owner.

3.2 IDENTIFICATION

- A. Provide identification for all fire alarm wiring systems and equipment.
 - 1. Color code junction boxes and enclosures per 2000 NEC, paragraph 700-9.
 - a. Color for fire alarm circuits: Red.
 - 2. Lettering for Identification: Sign painter's quality or stencil lettering, using fast drying sign enamel.

3.3 INSTALLATION

- A. All fire alarm system wiring shall be installed in dedicated conduits or raceways. In addition to the requirements of this section, refer to the appropriate specification sections of Division 26 for any additional information for conduit, boxes and grounding requirements.
- B. Provide and install the system in accordance with the project drawings and specifications, all applicable codes and the manufacturer's recommendations. All wiring shall be installed in strict compliance with all the provisions of NEC-Article 760 A and C, Power-Limited Fire Protective Signaling Circuits or if required by be reclassified as anon-power limited and wired in accordance with NEC-Article 760. Upon completion, the contractor shall so certify in writing to the Department and contractor of such compliance.
- C. Installation of equipment and devices that pertain to other work in the contract shall be closely coordinated with the appropriate subcontractors. Coordinate installation of all fire alarm control and monitoring devices associated with the smoke control system with Division 22 contractor.
- D. Interior raceways shall be a minimum 3/4 inches unless otherwise noted. Size all raceways and install conductors in accordance with the NEC and NFPA. Fill ratio shall not exceed 40 percent for indoor raceways and 30 percent for exterior raceways.
 - 1. EMT conduit with compression fittings shall be utilized.

3.4 TESTING

- A. The completed fire alarm system shall be fully cleaned and tested in accordance with NFPA 72 standards. Upon completion of a successful test, the contractor shall so certify in writing to the Department and Professional and provide all completed NFPA 72 certification and test reports.
- B. In addition, the contractor shall provide to the Department and Professional written documentation of all testing, cleaning, threshold settings and sensitivity readings for each automatic smoke-sensing device within the system.
- C. The service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment shall be provided to technically supervise and participate during initial system start-up, the projects final inspection and the Fire Marshal acceptance testing.
- D. At the final inspection, a factory-trained representative of the equipment manufacturer shall demonstrate that the system functions properly in every respect to the Department and/or designated representative. This requirement is in addition to all testing requirements listed above.

END OF SECTION 283111

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