



State of New Hampshire

DEPARTMENT OF ADMINISTRATIVE SERVICES

25 Capitol Street

Concord, New Hampshire 03301

(603) 271-3201 Office@das.nh.gov

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Charles M. Arlinghaus
Commissioner

Catherine A. Keane
Deputy Commissioner

Sheri L. Rockburn
Assistant Commissioner

Her Excellency, Governor Kelly A. Ayotte
and the Honorable Council
State House
Concord, New Hampshire 03301

July 9, 2025

REQUESTED ACTION

- 1) Authorize the Department of Administrative Services to enter into a contract with Gerard A. LaFlamme Inc. (VC#174091), Manchester, NH, in an amount up to and not to exceed \$305,450 for Fire Alarm Panel repair and replacements for the New Hampshire Bureau of Courts, effective upon Governor and Executive Council approval through February 28, 2026. **100% Capital Funds.**
- 2) Further authorize the amount of \$8,596.00 to be approved for payment to the Department of Administrative Services, Division of Public Works Design and Construction (VC#311152), for engineering and project management services provided. **100% Capital Funds.**

Funding is available in account titled Department of Administrative Services as follows:

	<u>FY 2026</u>
01-14-14-14653-92880000 – L21:1ID12-Fire Pnl Ist 11	
034-500161 – Repair/Renovation Buildings	\$239,700.00
034-500161 – Repair/Renovation Buildings	\$55,750.00
034-500161 – Project Allowance	<u>\$10,000.00</u>
Price Limitation Total	\$ 305,450.00
034-500161 – Repair/Renovation Buildings – DPW Fees	<u>\$8,596.00</u>
Project Total	\$314,046.00

EXPLANATION

At the request of the Bureau of Courts (BCF), the Department of Administrative Services (DAS), through the Bureau of Purchase and Property (BoPP), issued request for bid (RFB) 2988-25 on January 28, 2025, with responses due on March 12, 2025. This bid reached fifty-seven (57) vendors through the NIGP registry with an additional eleven (11) directly sourced. Four

locations were listed on the RFB: Center Conway, Lancaster, Nashua, and Plymouth. There were two compliant responses received with the lowest being from Gerard A. LaFlamme Inc.

Upon post bid analysis it was determined that funding was only available for two of the original four locations listed on the RFB. Plymouth and Nashua were prioritized due to age and safety concerns. For both locations awarded, the vendor base bid amounts were higher than anticipated when compared to the DPW estimates. For the Plymouth location the DPW estimate was \$47,017.00 against the vendor base bid amount of \$55,750.00. This is a difference of \$8,733.00, or 18.57%. For the Nashua location the DPW estimate was \$96,715.00 against the vendor base bid of \$239,700.00. This is a difference of \$142,985.00, or 247.84%. Additional analysis was conducted to determine a root cause for the large discrepancies in estimation and pricing submitted. First, it was revealed that the DPW estimates provided were out of date; estimates were completed in August 2024 and the bid was posted in January 2025. This time lapse can contribute to increased costs due to fluctuating market conditions. Second, estimates were lower than anticipated for all locations listed as compared to vendor submitted pricing, showing similar trends as demonstrated above. Third, the Nashua location is both the largest and oldest facility being awarded. As subject matter experts in their field, during site walkthroughs contractors noticed additional areas that required attention. Fourth, project work is scheduled during normal business hours which restricts contractor access to sensitive areas in the building as court employees are required to escort contractor personnel to these locations. Lastly, at no point throughout the bidding process was a major scope change issued. These factors combined with the sensitive and nuanced nature of working in a courthouse can contribute to increased labor costs for this type of project.

Upon approval, this contract shall facilitate the required repairs and replacements of fire panels at the Plymouth and Nashua facilities to ensure the buildings are safe and up to code. The full scope of this project represents a requested price limitation up to and not to exceed \$305,450.00 to perform fire alarm panel repairs and replacements as defined by the scope of work under the oversight of the Division of Public Works. The price limitation includes an allowance of \$10,000.00 for any unforeseen issues. Gerard A. LaFlamme Inc. has submitted all required and certified payment and performance bond paperwork. The payment and performance bond is certified at \$305,450.00 or 100% of the project cost. The total cost for the project, including DPW fees is \$314,046.00. The DPW estimate for these two locations is \$143,732.00.

Contract financials	
Vendor project bid amount (Nashua)	\$239,700.00
DPW estimate	\$96,715.00
Cost overage	\$142,985.00
Vendor project bid amount (Plymouth)	\$55,750.00
DPW estimate	\$47,017.00
Cost overage	\$8,733.00
Vendor project allowance	\$10,000.00
Requested project price limitation	\$305,450.00
Total project fees	\$8,596.00
Project total	\$314,046.00
Total DPW project estimate	\$143,732.00
Cost overage	\$170,314.00

Based on the foregoing, I am respectfully recommending approval of the contract with Gerard A. LaFlamme Inc.

Respectfully submitted,



Charles M. Arlinghaus
Commissioner



Division of Procurement Support Services
Bureau of Purchase Property

Gary S. Lunetta
Director
(603) 271-2201

Bid Summary

Bid Description	Fire Alarm Panels	Agency	DPW
Bid #	2988-25	RQ #	N/A
Agent Name	James Poulin	Bid Closing	3/12/2025

Indicates Award:

Qty	UOM	Product Description	Gerard A. LaFlamme Inc.	Richardson Electrical Co, Inc.	DPW Estimate
1	EA	Center Conway Base Bid	Site Not Awarded		
1	EA	Lancaster Base Bid	Site Not Awarded		
1	EA	Nashua Base Bid	\$239,700.00	\$308,539.00	\$96,715.00
1	EA	Plymouth Base Bid	\$55,750.00	\$91,263.00	\$47,017.00
Total Bid Amount			\$295,450.00	\$399,802.00	
Award Total			\$295,450.00	\$399,802.00	
Project Allowance			\$10,000.00	\$10,000.00	
Vendor Total required for Bond			\$305,450.00	\$409,802.00	
Contingency Fees			\$0.00	\$0.00	
DPW Fees			\$8,596.00	\$8,596.00	
Total Agency Cost			\$314,046.00	\$418,398.00	\$143,732.00

Recommendation Summary	
Number of Solicitations Received	2
Number of Sourced bidders	11
Number of NIGP Vendors Sourced	57
Number of non-responsive bidders	66
D&B Report Attached	No
Method of Payment (P-card/ACH)	ACH
Cost avoidance	-\$104,352.00 Avoidance
Special Notes:	

Notice: This agreement and all of its attachments shall become public upon submission to Governor and Executive Council for approval. Any information that is private, confidential or proprietary must be clearly identified to the agency and agreed to in writing prior to signing the contract.

AGREEMENT

The State of New Hampshire and the Contractor hereby mutually agree as follows:

GENERAL PROVISIONS

1. IDENTIFICATION

1.1 State Agency Name Department of Administrative Services Bureau of Purchase and Property	1.2 State Agency Address 25 Capitol Street Concord, NH 03301	1.3 Contractor Name Gerard A. Lafframme Inc.	1.4 Contractor Address PO Box 5706 Manchester, NH 03108
1.5 Contractor Phone Number 603-432-0878	1.6 Account Unit and Class Various	1.7 Completion Date February 28, 2026	1.8 Price Limitation \$305,450.00
1.9 Contracting Office for State Agency Gary Lunetta, Director	1.10 State Agency Telephone Number 603-271-3606	1.11 Contractor Signature <i>[Signature]</i> <small>Digitally signed by David Hernandez DN: cn=David Hernandez, o=Gerard A. Lafframme Inc. ny, ip=142.176.208.100, email=hernandez@lafframme.com, c=US Date: 2023.08.11 14:06:10 EDT</small>	1.12 Name and Title of Contractor Signatory Charles M. Arlinghaus, Commissioner
1.13 State Agency Signature <i>[Signature]</i>	1.14 Name and Title of State Agency Signatory Date: 8/18/25	1.15 Approval by the N.H. Department of Administration, Division of Personnel (if applicable) By: <i>[Signature]</i> Date: 9/17/25	
1.16 Approval by the Attorney General (Form, Substance and Execution) (if applicable)		1.17 Approval by the Governor and Executive Council (if applicable)	
G&C Item Number:		G&C Meeting Date:	

2. SERVICES TO BE PERFORMED. The State of New Hampshire, acting through the agency identified in block 1.1 (“State”), engages contractor identified in block 1.3 (“Contractor”) to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT B which is incorporated herein by reference (“Services”).

3. EFFECTIVE DATE/COMPLETION OF SERVICES.

3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, if applicable, this Agreement, and all obligations of the parties hereunder, shall become effective on the date the Governor and Executive Council approve this Agreement, unless no such approval is required, in which case the Agreement shall become effective on the date the Agreement is signed by the State Agency as shown in block 1.13 (“Effective Date”).

3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed.

3.3 Contractor must complete all Services by the Completion Date specified in block 1.7.

4. CONDITIONAL NATURE OF AGREEMENT.

Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds. In no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or termination of appropriated funds by any state or federal legislative or executive action that reduces, eliminates or otherwise modifies the appropriation or availability of funding for this Agreement and the Scope for Services provided in EXHIBIT B, in whole or in part, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to reduce or terminate the Services under this Agreement immediately upon giving the Contractor notice of such reduction or termination. The State shall not be required to transfer funds from any other account or source to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

5. CONTRACT PRICE/PRICE LIMITATION/ PAYMENT.

5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT C which is incorporated herein by reference.

5.2 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8. The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of

whatever nature incurred by the Contractor in the performance hereof and shall be the only and the complete compensation to the Contractor for the Services.

5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 The State’s liability under this Agreement shall be limited to monetary damages not to exceed the total fees paid. The Contractor agrees that it has an adequate remedy at law for any breach of this Agreement by the State and hereby waives any right to specific performance or other equitable remedies against the State.

6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/EQUAL EMPLOYMENT OPPORTUNITY.

6.1 In connection with the performance of the Services, the Contractor shall comply with all applicable statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal employment opportunity laws and the Governor’s order on Respect and Civility in the Workplace, Executive order 2020-01. In addition, if this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all federal executive orders, rules, regulations and statutes, and with any rules, regulations and guidelines as the State or the United States issue to implement these regulations. The Contractor shall also comply with all applicable intellectual property laws.

6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of age, sex, sexual orientation, race, color, marital status, physical or mental disability, religious creed, national origin, gender identity, or gender expression, and will take affirmative action to prevent such discrimination, unless exempt by state or federal law. The Contractor shall ensure any subcontractors comply with these nondiscrimination requirements.

6.3 No payments or transfers of value by Contractor or its representatives in connection with this Agreement have or shall be made which have the purpose or effect of public or commercial bribery, or acceptance of or acquiescence in extortion, kickbacks, or other unlawful or improper means of obtaining business.

6.4. The Contractor agrees to permit the State or United States access to any of the Contractor’s books, records and accounts for the purpose of ascertaining compliance with this Agreement and all rules, regulations and orders pertaining to the covenants, terms and conditions of this Agreement.

7. PERSONNEL.

7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services and shall be properly licensed and otherwise authorized to do so under all applicable laws.

7.2 The Contracting Officer specified in block 1.9, or any successor, shall be the State’s point of contact pertaining to this Agreement.

8. EVENT OF DEFAULT/REMEDIES.

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder (“Event of Default”):

- 8.1.1 failure to perform the Services satisfactorily or on schedule;
- 8.1.2 failure to submit any report required hereunder; and/or
- 8.1.3 failure to perform any other covenant, term or condition of this Agreement.

8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:

8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) calendar days from the date of the notice; and if the Event of Default is not timely cured, terminate this Agreement, effective two (2) calendar days after giving the Contractor notice of termination;

8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;

8.2.3 give the Contractor a written notice specifying the Event of Default and set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or

8.2.4 give the Contractor a written notice specifying the Event of Default, treat the Agreement as breached, terminate the Agreement and pursue any of its remedies at law or in equity, or both.

9. TERMINATION.

9.1 Notwithstanding paragraph 8, the State may, at its sole discretion, terminate the Agreement for any reason, in whole or in part, by thirty (30) calendar days written notice to the Contractor that the State is exercising its option to terminate the Agreement.

9.2 In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall, at the State’s discretion, deliver to the Contracting Officer, not later than fifteen (15) calendar days after the date of termination, a report (“Termination Report”) describing in detail all Services performed, and the contract price earned, to and including the date of termination. In addition, at the State’s discretion, the Contractor shall, within fifteen (15) calendar days of notice of early termination, develop and submit to the State a transition plan for Services under the Agreement.

10. PROPERTY OWNERSHIP/DISCLOSURE.

10.1 As used in this Agreement, the word “Property” shall mean all data, information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.

10.2 All data and any Property which has been received from the State, or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.

10.3 Disclosure of data, information and other records shall be governed by N.H. RSA chapter 91-A and/or other applicable law. Disclosure requires prior written approval of the State.

11. CONTRACTOR’S RELATION TO THE STATE. In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers’ compensation or other emoluments provided by the State to its employees.

12. ASSIGNMENT/DELEGATION/SUBCONTRACTS.

12.1 Contractor shall provide the State written notice at least fifteen (15) calendar days before any proposed assignment, delegation, or other transfer of any interest in this Agreement. No such assignment, delegation, or other transfer shall be effective without the written consent of the State.

12.2 For purposes of paragraph 12, a Change of Control shall constitute assignment. “Change of Control” means (a) merger, consolidation, or a transaction or series of related transactions in which a third party, together with its affiliates, becomes the direct or indirect owner of fifty percent (50%) or more of the voting shares or similar equity interests, or combined voting power of the Contractor, or (b) the sale of all or substantially all of the assets of the Contractor.

12.3 None of the Services shall be subcontracted by the Contractor without prior written notice and consent of the State.

12.4 The State is entitled to copies of all subcontracts and assignment agreements and shall not be bound by any provisions contained in a subcontract or an assignment agreement to which it is not a party.

13. INDEMNIFICATION. The Contractor shall indemnify, defend, and hold harmless the State, its officers, and employees from and against all actions, claims, damages, demands, judgments, fines, liabilities, losses, and other expenses, including, without limitation, reasonable attorneys’ fees, arising out of or relating to this Agreement directly or indirectly arising from death, personal injury, property damage, intellectual property infringement, or other claims asserted against the State, its officers, or employees caused by the acts or omissions of negligence, reckless or willful misconduct, or fraud by the Contractor, its employees, agents, or subcontractors. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph 13. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the State’s sovereign immunity, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

14. INSURANCE.

14.1 The Contractor shall, at its sole expense, obtain and continuously maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:

14.1.1 commercial general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate or excess; and

14.1.2 special cause of loss coverage form covering all Property subject to subparagraph 10.2 herein, in an amount not less than 80% of the whole replacement value of the Property.

14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements approved for use in the State of New Hampshire by the N.H. Department of Insurance, and issued by insurers licensed in the State of New Hampshire.

14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or any successor, a certificate(s) of insurance for all insurance required under this Agreement. At the request of the Contracting Officer, or any successor, the Contractor shall provide certificate(s) of insurance for all renewal(s) of insurance required under this Agreement. The certificate(s) of insurance and any renewals thereof shall be attached and are incorporated herein by reference.

15. WORKERS' COMPENSATION.

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A (*"Workers' Compensation"*).

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. The Contractor shall furnish the Contracting Officer identified in block 1.9, or any successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

16. WAIVER OF BREACH. A State's failure to enforce its rights with respect to any single or continuing breach of this Agreement shall not act as a waiver of the right of the State to later enforce any such rights or to enforce any other or any subsequent breach.

17. NOTICE. Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

18. AMENDMENT. This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire unless no such approval is required under the circumstances pursuant to State law, rule or policy.

19. CHOICE OF LAW AND FORUM.

19.1 This Agreement shall be governed, interpreted and construed in accordance with the laws of the State of New Hampshire except where the Federal supremacy clause requires otherwise. The wording used in this Agreement is the wording chosen by the parties to express their mutual intent, and no rule of construction shall be applied against or in favor of any party.

19.2 Any actions arising out of this Agreement, including the breach or alleged breach thereof, may not be submitted to binding arbitration, but must, instead, be brought and maintained in the Merrimack County Superior Court of New Hampshire which shall have exclusive jurisdiction thereof.

20. CONFLICTING TERMS. In the event of a conflict between the terms of this P-37 form (as modified in EXHIBIT A) and any other portion of this Agreement including any attachments thereto, the terms of the P-37 (as modified in EXHIBIT A) shall control.

21. THIRD PARTIES. This Agreement is being entered into for the sole benefit of the parties hereto, and nothing herein, express or implied, is intended to or will confer any legal or equitable right, benefit, or remedy of any nature upon any other person.

22. HEADINGS. The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

23. SPECIAL PROVISIONS. Additional or modifying provisions set forth in the attached EXHIBIT A are incorporated herein by reference.

24. FURTHER ASSURANCES. The Contractor, along with its agents and affiliates, shall, at its own cost and expense, execute any additional documents and take such further actions as may be reasonably required to carry out the provisions of this Agreement and give effect to the transactions contemplated hereby.

25. SEVERABILITY. In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

26. ENTIRE AGREEMENT. This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings with respect to the subject matter hereof.

EXHIBIT A - SPECIAL PROVISIONS

There are no special provisions of this contract.

EXHIBIT B - SCOPE OF SERVICES

1. INTRODUCTION:

1.1. Gerard A. LaFlamme Inc. (hereinafter referred to as the "Contractor") hereby agrees to provide the State of New Hampshire (hereinafter referred to as the "State"), Department of Administrative Services, Bureau of Courts, with fire alarm panel replacement services in accordance with the bid submission in response to State Request for Bid 2987-25 and as described herein.

2. CONTRACT DOCUMENTS:

2.1. This Contract consists of the following documents ("Contract Documents"):

- State of New Hampshire Terms and Conditions, General Provisions Form P-37
- EXHIBIT A Special Provisions
- EXHIBIT B Scope of Services
- EXHIBIT C Method of Payment
- APPENDIX A Project Execution Requirements
- APPENDIX B Project Drawings

2.2. In the event of any conflict among the terms or provisions of the documents listed above, the following order of priority shall indicate which documents control: (1), Form Number P-37 as modified by EXHIBIT A "Special Provisions," (2) EXHIBIT B "Scope of Services," (3) EXHIBIT C "Method of Payment," (4) Appendix A "Project Execution Requirements", and (5) Appendix B "Project Drawings."

3. TERM OF CONTRACT:

3.1. The term of the contract shall commence upon approval of the Governor & Executive Council (the "effective date") and issue of a Notice to Proceed (NTP) by the Department of Public Works (DPW) and shall continue thereafter until the DPW provides documentation of successful completion. The term of the contract shall be through February 28, 2026, a period of approximately ten (10) months.

3.2. The contract may be extended under the same terms, conditions, and pricing structure at the sole discretion of the State and approval of the Governor & Executive Council.

4. SCOPE OF WORK:

4.1. General

- 4.1.1. Contractor shall remove, repair and/or replace fire alarm panels and devices as required.
- 4.1.2. Includes Conditions of the Contract.
- 4.1.3. Examine all other sections of the specifications for requirements, which affect the work of this Section, whether or no such requirements are particularly mentioned herein.
- 4.1.4. Coordinate the work of this section with the related work of other trades, if applicable, and coordinate with such trades to assure the steady progress of all work of this Contract.
- 4.1.5. Where construction and trades codes appear in this specification, it shall be interpreted to mean the latest edition.

4.2. Summary

- 4.2.1. The work covered by this Section consists of furnishing all labor, materials, equipment, supplies, devices, etc., the installation of the materials and equipment and the performance of all operations necessary to remove, repair and/or replace fire alarm panels and devices located at 30 Spring Street, Nashua, NH 03060 and 26 Green Street, Plymouth, NH 03264, as indicated on the Contract Drawings and/or as described within the Contract Specifications.
- 4.2.2. This work shall include all costs involved in providing new and/or modifying existing doors and entryways and any costs involved with any other special controls for the project. Without limiting the work required under this specification section, the following is included as noted:
- 4.2.3. Any and all work required to leave the facility as a fully operable project per the Contract.
- 4.2.4. Obtain and pay for all required permits, inspections, etc.
- 4.2.5. Provide any testing and commissioning for the project.

4.3. Appendices

4.3.1. Specific project requirements are incorporated into Appendices A and B as part of Exhibit B.

4.3.1.1. Appendix A incorporates the following project requirements into this document:

- 4.3.1.1.1. Special Requirements
- 4.3.1.1.2. General Conditions
- 4.3.1.1.3. Summary
- 4.3.1.1.4. Price and Payment Procedures
- 4.3.1.1.5. Administrative Requirements
- 4.3.1.1.6. Submittal Procedures
- 4.3.1.1.7. Quality Requirements
- 4.3.1.1.8. Temporary Facilities and Controls
- 4.3.1.1.9. Construction Waste Management and Disposal
- 4.3.1.1.10. Product Requirements
- 4.3.1.1.11. Execution Requirements
- 4.3.1.1.12. New Hampshire Department of Employment Security

4.3.1.2. Appendix B incorporates all project drawings into this document.

4.3.2. The Contractor shall abide by all project requirements set forth in all Appendices.

4.3.3. All subcontractors shall abide by all project requirements set forth in all Appendices.

5. COMMERCIAL REQUIREMENTS:

- 5.1. The State of New Hampshire reserves the right to add or delete locations/equipment throughout the term of the contract. For the addition of a new location or new equipment, a requesting agency through the Division of Procurement and Support Services shall submit a request for quote (RFQ) including a detailed scope of work to the contractor. Quotes shall be in accordance with pricing and service requirements contained herein and no service shall be performed until documented acceptance by the State is received. The Contract may be amended, by agreement of the parties, effective upon approval of the commissioner of the Department of Administrative Services, without further approval needed by the Governor and Executive Council as long as the price limitation is unchanged or decreased as a result of the new or deleted locations/equipment.
- 5.2. Except as otherwise provided in this Scope of Services, all services performed under this Contract shall be performed between the hours of 7:00 A.M. and 3:00 P.M. unless other arrangements are made in advance with the State. Any deviation in work hours shall be pre-approved by the Contracting Officer. The State requires ten-day advance knowledge of said work schedules to provide security and access to respective work areas.
- 5.3. The Contractor shall not commence work until a conference is held with each State agency intending to utilize the Contractor's services, at which representatives of the Contractor and the State are present. The conference will be arranged by the State agency.
- 5.4. The State shall require correction of any defective work and the repair of any damages to any part of a building, or its appurtenances caused by the Contractor or its employees, subcontractors, equipment or supplies. The Contractor shall correct, repair, or replace all defective work, as needed, to complete said work in satisfactory condition, and damages so caused in order to restore the building and its appurtenances to their previous condition. Upon failure of the Contractor to proceed promptly with the necessary corrections or repairs, the State may withhold any amount necessary to correct all defective work or repair all damages from payments to the Contractor.
- 5.5. The work staff shall consist of qualified persons completely familiar with the products and equipment that they will use. The Contracting Officer may require the Contractor to dismiss from the work such employees as the Contracting Officer deems incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the work is deemed to be contrary to the public interest or inconsistent with the best interest of security and the State.

- 5.6. Neither the Contractor nor its employees or subcontractors shall represent themselves as employees or agents of the State.
- 5.7. While on State property the Contractor, its employees, and its sub-contractors shall be subject to the authority and control of the State, but under no circumstances shall such persons be deemed to be employees of the State.
- 5.8. All personnel shall observe all regulations or special restrictions in effect at any State agency location at which services are to be provided.
- 5.9. The Contractor's personnel shall be allowed only in areas where services are to be provided. The use of State telephones by the Contractor, its employees, or its sub-contractors is prohibited.
- 5.10. If sub-contractors are to be utilized, Contractor shall provide information regarding the proposed sub-contractors including the name of the company, their address, contact person and three references for clients they are currently servicing. Approval by the State must be received prior to a sub-contractor starting any work.

6. OBLIGATIONS AND LIABILITY OF THE CONTRACTOR:

- 6.1. The Contractor shall provide all soundproofing and cellblock improvement services strictly pursuant to, and in conformity with, the specifications described in State RFB 2987-25, as described herein, and under the terms of this Contract.
- 6.2. It is the responsibility of the Contractor to maintain this contract and New Hampshire Vendor Registration with up-to-date contact information.
- 6.3. Contract specific contact information (Sales contact, Contractor contract manager, etc.) shall be sent to the State's Contracting Office listed in Box 1.9 of Form P-37.
- 6.4. Additionally, all updates i.e., telephone numbers, contact names, email addresses, W9, tax identification numbers are required to be current through a formal electronic submission to the Bureau of Purchase and Property at: [https://das.nh.gov/purchasing/vendorregistration/\(S\(q0fzcv55qhaeqs45jpyq5i45\)\)/welcome.aspx](https://das.nh.gov/purchasing/vendorregistration/(S(q0fzcv55qhaeqs45jpyq5i45))/welcome.aspx).
- 6.5. The Contractor shall agree to hold the State of NH harmless from liability arising out of injuries or damage caused while performing this work. The Contractor shall agree that any damage to building(s), materials, equipment, or other property during the performance of the service shall be repaired at its own expense, to the State's satisfaction.
- 6.6. Contractor shall not be allowed to require any other type of order, nor shall the Contractor be allowed to require the filling out or signing of any other document by State of New Hampshire personnel.

7. DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION LOWER TIER COVERED TRANSACTIONS:

- 7.1. The Contractor certifies, by signature of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal Department or Agency.

8. CONFIDENTIALITY & CRIMINAL RECORD:

- 8.1. If requested by the using agency, the Contractor and its employees, and Sub-Contractors (if any), shall be required to sign and submit a Confidential Nature of Department Records Form and a Criminal Authorization Records Form. These forms shall be submitted to the individual using agency prior to the start of any work.

EXHIBIT C - METHOD OF PAYMENT

9. CONTRACT PRICE:

9.1. The Contractor hereby agrees to provide fire alarm panel replacement services in strict compliance with the terms and conditions specified in Exhibit B for an amount up to and not to exceed a price of \$305,450.00; this figure shall not be considered a guaranteed or minimum figure; however, it shall be considered a maximum figure from the effective date through the expiration date as indicated in Form P-37 Block 1.7.

10. PRICING STRUCTURE (milestones):

10.1. Payments shall be made on a monthly basis based on the percentage of work completed. Payment shall not be due until 30 days after the invoice has been received at the agency business office or all items have been delivered, inspected, and accepted by the agency, whichever is later.

10.2. Payment method (P-Card or ACH). Payments shall be made via ACH or Procurement Card (P-card = Credit Card) unless otherwise specified by the State of New Hampshire. Use the following link to enroll with the State Treasury for ACH payments: <https://www.nh.gov/treasury/state-vendors/index.htm> Eligible participants shall negotiate their own payment methods with the successful Vendor.

CONTRACT 8003660 Fire Alarm Replacements	
NASHUA BASE BID	\$239,700.00
PLYMOUTH BASE BID	\$55,750.00
PROJECT ALLOWANCE	\$10,000.00
TOTAL PROJECT AMOUNT	\$305,450.00

11. CONTRACT BOND:

11.1. The Contractor, at the time of the execution of this Contract shall submit a Payment and Performance Bond in the sum equal to one hundred percent (100%) of the amount of the Contract as required by RSA 447:16. The Payment and Performance Bond must be written by a company licensed to do business in New Hampshire at the time the policy is issued. In addition, the company issuing the payment and performance bond shall be listed on the current list of "Surety Companies Acceptable on Federal Bonds" as published by the U.S. Department of the Treasury, Financial Management Services, Circular Number 570. See Surety Bonds – Circular 570 (treasury.gov).

11.2. Release of Claims and Final Payment:

11.2.1. The final payment shall not become due until the Contractor delivers a complete release of all claims arising under and by virtue of this Contract, including claims for all subcontractors and suppliers of either materials or labor, plus a release of the Contract Bond and a statement that all subcontractors and suppliers have been paid.

11.2.2. Application for Final Payment received from the Contractor will be processed for payment after project acceptance and final completion unless accompanied by a release of the Contract Bond. This payment shall be the amount of the Contract, less previous payments. All prior partial payments shall be subject to correction in the final estimate and payment.

11.3. The acceptance of Final Payment by the Contractor shall be and shall operate as a release to the Contractor of all claims and of all liability to the State for all things done or furnished in connection with this work. No payment, however, final or otherwise, shall operate to release the Contractor and its Sureties from any obligations under this Contract of the Contract Bond. Acceptance of Final Payment shall not impact any warranties provided by the Contractor with respect to this project.

12. INVOICE:

12.1. Invoices shall be submitted on a monthly basis to the State Project Manager based on the percentage of work completed. The Contractor shall submit invoices on AIA forms subject to review and approval by the State Project Manager. The percentage of work completed shall be determined by the State Project Manager.

12.2. Payment requisition forms, change order forms, and invoicing questions can be sent to Timothy Smith at TIMOTHY.D.SMITH@DAS.NH.GOV.

13. PAYMENT:

13.1. Payments shall be made on a monthly basis based on the percentage of work completed. Payments shall be made within thirty (30) days after receipt of the invoice and acceptance of the corresponding goods and/or services to the State's satisfaction.

13.2. Payments may be made via ACH or P-Card. Use the following link to enroll with the State Treasury for ACH payments: <https://www.nh.gov/treasury>.

13.3. Contractor shall be paid within 30 days after receipt of properly documented invoice and acceptance of the work to the State's satisfaction.



STATE OF NEW HAMPSHIRE
 DEPARTMENT of ADMINISTRATIVE SERVICES
 DIVISION of PUBLIC WORKS - DESIGN & CONSTRUCTION



John O. Morton Building • 7 Hazen Drive, Room 250 • POB 483 • Concord, NH 03302-0483
 Telephone: 603-271-3516 • Fax: 603-271-3515 • TDD: 1-800-735-2964
<http://das.nh.gov/publicworks>



APPROVED _____ DATE: _____	APPROVED _____ DATE: <u>12-9-24</u> DEPT OF ADMINISTRATIVE SERVICES - COMMISSIONER
APPROVED _____ DATE: _____	RECOMMENDED _____ DATE: <u>12-04-2024</u> DIVISION OF PUBLIC WORKS - ADMINISTRATOR
APPROVED _____ DATE: _____	APPROVED _____ DATE: _____

DOCUMENT 00 0015

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07 8413 Penetration Firestopping

DIVISION 8 - DOORS AND WINDOWS (NOT USED)

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DIVISION 21 – FIRE SUPPRESSION (NOT USED)

DIVISION 22 – PLUMBING (NOT USED)

DIVISION 23 – HEATING, VENTILATION AND AIR CONDITIONING (NOT USED)

DIVISION 26 – ELECTRICAL

26 0500 Basic Electrical Materials and Methods

26 0523 Control-Voltage Electrical Power Cables

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DIVISION 31 – EARTHWORK (NOT USED)

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DIVISION 33 – UTILITIES (NOT USED)

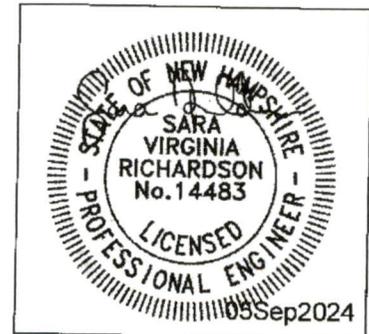
END OF SECTION

DOCUMENT 00 0030

PROJECT DIRECTORY

ENGINEER:

CONSULTANT: RICHARDSON ENGINEERING
ADDRESS: PO BOX 288, 34 LINDSEY LANE
CITY, STATE ZIP SOUTH BERWICK, ME 03908
TELEPHONE: 207.384.1055
FAX:
E-MAIL: sara@richardson-eng.com
CONTACT: Sara Richarson, PE



USING AGENCY:

DEPARTMENT DEPARTMENT OF ADMINISTRATIVE SERVICES
BUR/DIV: COURTS
ADDRESS: 25 CAPITOL STREET, SUITE 101
CITY, STATE ZIP CONCORD, NH 03302
TELEPHONE:
FAX:
E-MAIL:
CONTACT: Sarah Lineberry, Superintendent of Court Facilities

CONTRACT ADMINISTRATOR:

DEPARTMENT DEPARTMENT OF ADMINISTRATIVE SERVICES
BUR/DIV: DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION
ADDRESS: JOHN O. MORTON BUILDING, ROOM 250
POB 483, 7 HAZEN DRIVE
CITY, STATE ZIP CONCORD, NH 03302
TELEPHONE: (603) 271-1643
FAX: (603) 271-3515
E-MAIL: t.d.smith@das.nh.gov
CONTACT: Tim Smith, RA, PMIV

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DOCUMENT 00 0040

DRAWING LIST

SERIES 0 DOCUMENTS

CONSTRUCTION DOCUMENTS

T-1	Title Sheet	Revision Date
G1	SITE LOCATIONS & SHEET INDEX	
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CC-D1	CENTER CONWAY ELECTRICAL DETAILS AND RISER	
CC-FD1	CENTER CONWAY FIRST FLOOR FIRE ALARM DEMO PLAN	
CC-FA1	CENTER CONWAY FIRST FLOOR FIRE ALARM PLAN	
LA-D1	LANCASTER ELECTRICAL DETAILS AND RISER	
LA-FD1	LANCASTER FIRST FLOOR FIRE ALARM DEMO PLAN	
LA-FD2	LANCASTER SECOND FLOOR FIRE ALARM DEMO PLAN	
LA-FD3	LANCASTER THIRD FLOOR FIRE ALARM DEMO PLAN	
LA-FA1	LANCASTER FIRST FLOOR FIRE ALARM PLAN	
LA-FA2	LANCASTER SECOND FLOOR FIRE ALARM PLAN	
LA-FA3	LANCASTER THIRD FLOOR FIRE ALARM PLAN	
N-D1	NASHUA ELECTRICAL DETAILS AND RISER	
N-FD1	NASHUA BASEMENT FIRE ALARM DEMO PLAN	
N-FD2	NASHUA FIRST FLOOR FIRE ALARM DEMO PLAN	
N-FD3	NASHUA SECOND FLOOR FIRE ALARM DEMO PLAN	
N-FD4	NASHUA THIRD FLOOR FIRE ALARM DEMO PLAN	
N-FA1	NASHUA BASEMENT FIRE ALARM PLAN	
N-FA2	NASHUA FIRST FLOOR FIRE ALARM PLAN	
N-FA3	NASHUA SECOND FLOOR FIRE ALARM PLAN	
N-FA4	NASHUA THIRD FLOOR FIRE ALARM PLAN	
PL-D1	PLYMOUTH ELECTRICAL DETAILS AND RISER	
PL-FD1	PLYMOUTH FIRST FLOOR FIRE ALARM DEMO PLAN	
PL-FD2	PLYMOUTH SECOND FLOOR FIRE ALARM DEMO PLAN	
PL-FD3	PLYMOUTH THIRD FLOOR FIRE ALARM DEMO PLAN	
PL-FA1	PLYMOUTH FIRST FLOOR FIRE ALARM PLAN	
PL-FA2	PLYMOUTH SECOND FLOOR FIRE ALARM PLAN	
PL-FA3	PLYMOUTH THIRD FLOOR FIRE ALARM PLAN	

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DOCUMENT 00 0120

NEW HAMPSHIRE DEPARTMENT OF EMPLOYMENT SECURITY
EMPLOYMENT OF NEW HIRES (3/2/2012)

The following is a list of the local State Employment Security Offices from which the Contractor may secure the unskilled labor for this project:

Department of Employment Security
151 Pleasant Street
Berlin, NH 03570-2006
Telephone: 603.752.5500

Department of Employment Security
404 Washington Street, P.O. Box 180
Claremont, NH 03743-0180
Telephone: 603.543.3111

Department of Employment Security
6 Marsh Brook Drive
Somersworth, NH 03878-1595
Telephone: 603.742.3600

Department of Employment Security
149 Emerald Street, Suite Y
Keene, NH 03431-3662
Telephone: 603.352.1904

Department of Employment Security
426 Union Avenue, Suite 3
Laconia, NH 03246-2894
Telephone: 603.524.3960

Department of Employment Security
518 White Mountain Highway
Conway, NH 03818
603.447.5924

Department of Employment Security
646 Union Street, Suite 100
Littleton, NH 03561-5351
Telephone: 603.444.2971

Department of Employment Security
300 Hanover Street
Manchester, NH 03104-4957
Telephone: 603.627.7841

Department of Employment Security
6 Townsend West
Nashua, NH 03063-1217
Telephone: 603.882.5177

Department of Employment Security
2000 Lafayette Road
Portsmouth, NH 03801-5605
Telephone: 603.436.3702

Department of Employment Security
29 South Broadway
Salem, NH 03079-3026
Telephone: 603.893.9185

Department of Employment Security
45 South Fruit Street
Concord, NH 03301
603.228.4100

For a list of Disadvantaged Business Enterprises, the State EEO Coordinator, Larisa Djuvelek-Ruggiero, may be contacted at the Labor Compliance Office, Bureau of Human Resources, John O. Morton Building, Concord, N.H., Telephone: 603/271-6612.

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DOCUMENT 00 0708

GENERAL CONDITIONS – DPW
Issued 2-05-2004; Revised as noted

PART	ITEM
1	DEFINITIONS
2	CONTRACT DOCUMENTS
3	NOTICE
4	ACCESS TO THE WORK
5	ACCIDENT PROTECTION
6	HAZARDOUS MATERIALS
7	SUBCONTRACTS
8	RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY
9	MUTUAL RESPONSIBILITY OF CONTRACTORS
10	PAYMENTS TO CONTRACTOR
11	CONTRACTOR'S TITLE TO MATERIALS
12	CHANGES IN WORK
13	PATENTS
14	ASSIGNMENTS
15	SUPERINTENDENCE BY CONTRACTOR
16	FAILURE TO COMPLETE WORK ON TIME
17	SUBSTANTIAL COMPLETION AND FINAL INSPECTION
18	DEFAULT AND TERMINATION OF CONTRACT
19	TERMINATION OF CONTRACT WITHOUT FAULT
20	ASSIGNMENT PROVISION

PART 1 DEFINITIONS

- A. **Addendum.** Written and/or graphic information issued before opening *Proposals* that modifies or interprets the *Bidding Documents* by additions, deletions, clarifications or corrections.
- B. **Advertisement.** A public announcement in the form of an *Invitation to Bid*, inviting *Bids* for *Work* to be performed and/or *Materials* to be furnished.
- C. **Alteration Order.** A written agreement between the *Contractor* and the *Department* that amends the *Contract* and identifies *Work* that affects either the *Contract Sum*, *Completion Date*, *Credit*, or any combination thereof.
- D. **Alternate.** A proposed change in the *Work* described in the *Contract Documents* providing the *State* with an option to select between alternative materials, products or systems, or to add or delete portions of *Work*.
- E. **Architect.** As defined in RSA 310-A:28, a person who, by reason of having acquired through professional education and practical experience an advanced training in building construction and architectural design and an extensive knowledge of building standards created to safeguard the public from hazards such as fire, panic, structural failure, and unsanitary conditions, is technically and legally qualified to practice architecture and who is licensed by the State of New Hampshire Board of Licensure for Architects to engage in the practice of architecture. The Architect has no contractual agreement with the *Contractor* and therefore shall not directly interact with the *Contractor*.
- F. **Award.** The acceptance of a *Bid* prior to execution of *Contract*.
- G. **Bid.** A complete and properly signed *Proposal*, submitted in accordance with the *Bidding Requirements*, to perform the *Work* for the amount or amounts stipulated therein.
- H. **Bid Bond.** A form of a *Proposal Guaranty* executed by the *Bidder* and a *Surety* to guarantee that the *Bidder* will enter into a *Contract* within a specified time.
- I. **Bid Opening Officer.** An authorized representative of the *Department*, who is responsible for opening and reading of *Bids*.
- J. **Bidder.** A *Corporation*, *Partnership*, or *Proprietorship* submitting a *Proposal*, subsequent to meeting the *Department's Bidding Requirements*.
- K. **Bidding Documents.** Collectively, the *Invitation to Bid*, *Bidding Requirements*, *Specifications*, *Drawings*, and *Addendum*.
- L. **Bidding Requirements.** The documents that contain information regarding bidding procedures with which a *Bidder* must conform and a *Proposal* that a *Bidder* shall use to submit a *Bid*.
- M. **Builders Risk Insurance.** A specialized form of property insurance that provides coverage for loss or damage during the course of construction.

- N. **Calendar Day.** A day shown on the calendar.
- O. **Certificate of Occupancy.** A document issued by the Office of the State Fire Marshal or its authorized representative certifying that all of, or a designated portion of a building, is approved for its designated use.
- P. **Certificate of Full or Partial Substantial Completion.** A document prepared by the *Department* when the *Project* reaches *Substantial Completion* and only issued after review and acceptance of the *Contractor's Request for Certificate of Full or Partial Substantial Completion*.
- Q. **Change Order.** A written agreement between the *Contractor* and the *Department* that identifies *Work* to be completed as part of an Allowance Item. Any change that affects either the *Contract Sum*, *Contract Time* or *Credit* shall be processed as an *Alteration Order*.
- R. **Clerk of the Works.** An authorized representative identified by the *Department*, responsible for observing construction on the State's behalf for conformance with the *Contract Documents*.
- S. **Commercial General Liability Insurance.** A broad form of liability insurance covering claims for bodily injury and property damage which combines under one policy coverage for business liability exposures, except those specifically excluded.
- T. **Commissioner.** The Commissioner of the State of New Hampshire Department of Administrative Services.
- U. **Completion Date.** The last day of the time allotted or the specific date established as identified in the *Contract Documents* for *Substantial Completion* of the *Work*, including any authorized extensions.
- V. **Consultant.** The *Architect*, *Engineer*, and/or professional engaged to develop/provide *Drawings*, *Specifications* and/or other services for the *Project*. The Consultant has no contractual agreement with the *Contractor* and therefore all interaction between any Consultant and the *Contractor* shall be done thru the *Contract Administrator*.
- W. **Contract.** The written agreement between the *Department* and the *Contractor* setting forth the obligations of the parties as outlined in the *Contract Documents*.
- X. **Contract Administrator.** The *Department's* Division of Public Works Project Manager or other appointed representative having specific authority per RSA 228:5 to act on the *Department's* behalf and shall be responsible for general supervision, control, and direction over all matters pertaining to design, construction, maintenance standards, preservation, and administration of the *Contract*.
- Y. **Contract Bond.** The approved form of security in compliance with RSA 447:16 executed by the *Contractor* and their *Surety* or *Sureties*, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto including the payment of all legal debts pertaining to the construction of the *Project*.

- Z. **Contract Documents.** Collectively, the *Invitation To Bid, Bidding Requirements, Contract Bond, Specifications, Drawings, Addendum*, and other documents included in the *Contract*, and modifications, clarifications, authorized *Alteration Orders* and *Change Orders* issued after the execution of the *Contract*, to complete the *Project*. All documents shall be written in English.
- AA. **Contract Sum.** The amount stated in the *Contract*. This sum shall be derived from the *Lump Sum Base Bid, Lump Sum Grand Total, or Negotiated Price*; modified to reflect the acceptance of any *Alternates*. The *Notice to Proceed* shall state the amount that the *State* is obligated to pay the *Contractor*.
- BB. **Contractor.** The *Corporation, Partnership, or Proprietorship*, or any combination thereof, contracting with the *State* for performance of prescribed work.
- CC. **Contractor's Request for Certificate of Full or Partial Substantial Completion.** A document prepared by the *Contractor* when the *Project* reaches *Substantial Completion*.
- DD. **Contractual Liability.** Liability assumed by the *Contractor* under a *Contract*.
- EE. **Corporation.** A legal entity organized under the laws of a particular jurisdiction who is legally authorized to do business in the *State*.
- FF. **Credit.** Any Change that results in a reduction in the *Contract Sum* or *Lump Sum Grand Total* Items. All credits shall be processed by an *Alteration Order* and may include modifications to *Lump Sum Grand Total* Items.
- GG. **Day.** Unless designated as a *Working Day*, or unless otherwise indicated, this term will mean a *Calendar Day*.
- HH. **Department.** The *State of New Hampshire Department of Administrative Services*.
- II. **Drawings (Plans).** The graphic and pictorial documents or reproductions thereof, which show the location, character, dimensions, and details of the prescribed work.
- JJ. **Final Completion.** Term denoting that the *Work* has been completed in accordance with the terms and conditions of the *Contract Documents* and all *Punch List* items have been completed.
- KK. **Final Payment.** Payment made by the *State* to the *Contractor*, upon *Final Completion*. LL.
- General Conditions.** The part of the *Contract Documents* establishing the rights, responsibilities and relationships of the parties.
- MM. **Hazardous Material.** Shall include any material regulated by federal or state law and shall include but not limited to asbestos, toxic or hazardous waste, PCBs, combustible gases and materials, petroleum or radioactive material, or any other substances under any conditions and in such quantities as would pose a substantial danger to persons or property exposed to such substances.

- NN. **Indemnification.** A contractual obligation by which one person or entity agrees to reimburse others for loss or damage arising from specified liabilities.
- OO. **Invitation to Bid.** A portion of the *Bidding Documents*; the *Advertisement for Proposals for Work or Materials* on which *Bids* are requested. The *Advertisement* will indicate the time and place of the opening of *Proposals*, the type and location of *Work* to be performed, the character and quantity of the *Material* to be furnished and provide information on how to obtain *Drawings, Specifications and Proposal*.
- PP. **Liability Insurance.** A contract under which an insurance company agrees to protect a person or entity against claims arising from a real or alleged failure to fulfill an obligation or duty to a third party who is a named or an incidental beneficiary.
- QQ. **Lump Sum Base Bid.** One type of *Proposal* where the *Bid* is established by a single item price to perform all *Work* excluding any *Alternates* that may or may not become part of the *Contract*.
- RR. **Lump Sum Grand Total.** One type of *Proposal* where the *Bid* is established as a total of various items to perform all *Work* excluding any *Alternates* that may or may not become part of the *Contract*.
- SS. **Low Bid.** The *Bid* stating the lowest price proposed for performance of the *Work*, conforming to the *Bidding Documents*.
- TT. **Lowest Responsible Bidder.** The *Bidder* who submits the lowest bona fide *Bid* and is considered by the Department to be fully responsible and qualified to perform the *Work* for which the *Bid* is submitted.
- UU. **Material(s).** Any substance and/or product specified for use in the construction of the *Project* and its appurtenances.
- VV. **Negotiated Price.** A *Proposal* modified by the *Lowest Responsible Bidder* through communication with the Department and *Using Agency(ies)* in which changes are made to the *Proposal* and/or *Completion Date* as required to meet budget, funding or scheduling requirements.
- WW. **Notice to Proceed.** A written notice to the *Contractor* to proceed with a portion of or all of the *Contract Work*; including the beginning of *Contract time* when applicable. The *Notice to Proceed* shall act as the final step in awarding the *Contract* or portion thereof.
- XX. **Occurrence Policy.** An insurance policy that covers acts or omissions occurring during the policy term, regardless of when a claim against the insured is first asserted, even if the policy is no longer in existence.
- YY. **Owner's Protective Liability Coverage.** Third-party legal liability insurance coverage protecting the *State* from claims arising from the construction process.
- ZZ. **Partnership.** An association of two or more persons or entities to conduct a business that shares profits and losses at a certain proportion.

- AAA. **Professional Engineer.** Referred to as Engineer. As defined in RSA 310-A:2, a person who by reason of advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice engineering, and who is licensed by or otherwise authorized by State of New Hampshire Professional Engineers Board to engage in the practice of engineering. The Engineer has no contractual agreement with the *Contractor* and therefore shall not directly interact with the *Contractor*.
- BBB. **Project.** The total construction of the *Work* to be performed.
- CCC. **Proposal.** A *Bidder's* offer, on *Department* prescribed forms, to perform stated work at the quoted price(s).
- DDD. **Proposal Guaranty.** The security furnished with a *Proposal*, which shall be a *Bid Bond*, provides that the *Bidder* if awarded the *Contract* will execute such *Contract* in accordance with the requirements of the *Bidding Documents*.
- EEE. **Proprietorship (Individual).** A form of business organization that is owned entirely by one person.
- FFF. **Provide.** To furnish and install a product, materials, systems, and/or equipment, complete in place, fully tested and approved.
- GGG. **Punch List.** A written document attached to the *Certificate of Substantial Completion* listing items to be completed or corrected prior to the *State's* approval of *Final Payment*.
- HHH. **Specifications.** The volume that is part of the *Contract Documents* which contain the *General Conditions*, *Supplementary General Conditions*, *Invitation to Bid*, and individual sections that consist of written requirements for material, equipment, construction systems, standards and workmanship, and other documents or reports as applicable.
- III. **State.** The State of New Hampshire.
- JJJ. **Subcontractor.** A *Corporation*, *Partnership*, *Proprietorship*, *Joint Venture* or any combination thereof, to whom the *Contractor* sublets any part of the *Contract*.
- KKK. **Substantial Completion.** As determined by an inspection by the *Department* that the work or portion thereof is substantially complete, in accordance with the *Contract Documents*, such that the *State* may occupy or utilize the *Work* for its intended use without disruption or interference by the *Contractor* in completing or correcting any remaining unfinished or unacceptable *Work*.
- LLL. **Substitution.** A *Material*, product or item of equipment in place of that specified.
- MMM. **Superintendent.** The *Contractor's* authorized representative responsible for field supervision, coordination, and completion of the *Work*.
- NNN. **Supplementary General Conditions.** A part of the *Contract Documents* which supplements and may also modify, change, add to or delete from provisions of the *General Conditions*.

- OOO. **Surety.** A *Corporation, Partnership, or Proprietorship* other than the *Contractor*, executing a bond furnished by the *Contractor*.
- PPP. **Umbrella Liability Insurance.** Insurance providing coverage in an amount above existing liability policies.
- QQQ. **Unit Price.** An amount stated in a *Lump Sum Grand Total Bid* as a price per unit for an item or portion of the contract or for specific materials and/or services described in the *Contract Documents*.
- RRR. **Using Agency.** The executive department, commission, independent establishment, public corporation which is an instrumentality of a state board, bureau, division, institution, service, office, officer, authority, administration or other establishment in the executive branch of the government, who are responsible for the facility and/or will occupy the facility after and/or during the Work. The Using Agency(ies) has/have no contractual agreement with the *Contractor* and therefore shall not direct the *Contractor* in any way.
- SSS. **Work.** The construction and services required by the *Contract Documents* to furnish all labor, materials, equipment, and incidentals necessary to complete the duties, obligations, and requirements imposed by the *Contract*.
- TTT. **Workers' Compensation Insurance.** Insurance covering the liability of an employer to employees for compensation and other benefits required by workers' compensation laws with respect to injury, sickness, disease or death arising from their employment.
- UUU. **Working Day.** Any calendar day, except Saturdays, Sundays, and Contract designated legal holidays.

PART 2 CONTRACT DOCUMENTS

- 2.1 The Contract Documents consist of the Invitation to Bid, Contract Agreement, General Conditions, Supplementary General Conditions, Drawings and Specifications, including all Addenda issued prior to execution of the Contract, wage scales where applicable, Bonds where required, insurance certificates, other documents listed in the Agreement and Modifications issued after the execution of the Contract, Change Orders and Alteration Orders issued in accordance with Part 12 of the General Conditions.
- A. Hierarchy of the Contract Documents shall be interpreted according to the following classes:
1. Department approved modifications to the Contract Documents after execution of the Contract.
 2. Addenda.
 3. Supplemental General Conditions.
 4. General Conditions.
 5. Division 1 – General Requirements.
 6. Remaining Specifications.
 7. Larger Scale Drawings & Details.
 8. Remaining Drawings.
- 2.2 A fully executed Contract shall not be in effect until approved by the Governor and Council and an issuance of the Notice to Proceed by the Division.
- 2.3 This Contract is executed in a number of counterparts, each of which is an original and constitutes the entire agreement between the parties. This Contract shall be construed according to the laws of the State. No portion of this Contract shall be understood to waive the sovereign immunity of the State. This Contract shall not be amended, except as specified in Parts 13 and 20.
- 2.4 The Contract Documents are complementary and anything called for by one of the Contract Documents and not called for by the others shall be of like effect as if required by all.
- 2.5 Should the Contract Documents contain inconsistencies within a class identified in Item 2.1A, the Contractor shall provide the better quality or greater quantity of work and/or materials. The Contractor shall identify any perceived discrepancies to the Contract Administrator prior to proceeding.
- 2.6 The Contractors and all Subcontractors shall refer to all of the Contract Documents, including those not specifically showing the work of their specialized trades, and shall perform all work reasonably inferable from them as being necessary to produce the intended results in compliance with applicable Federal, State, and Local codes.

- 2.7 All indications or notations which apply to one of a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the work, except where a contrary result is clearly indicated by the Contract Documents.
- 2.8 Where codes, standards, requirements, and publications of public and private bodies are referred to in the Contract Documents, such references shall be understood to be to the latest final and complete revision at the time of receiving Bids unless specifically identified, except where otherwise indicated.
- 2.9 Where no explicit quality or standards for materials or workmanship is established for work, such work is to be consistent with the best quality workmanship standards of the applicable trade.
- 2.10 All manufactured articles, materials, and equipment shall be applied, assembled, installed, connected, erected, tested, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions, unless specifically indicated otherwise in the Contract Documents.
- 2.11 The Drawings are made to scale as identified therein, but all working dimensions shall be taken from the figured dimensions and by actual measurements at the job; in no case by scaling. The Contractor shall study and compare all of the Drawings and verify all figures before laying out or constructing work. The Contractor shall be responsible for errors in his/her work that might have been avoided thereby. Whether or not an error is believed to exist, deviation from the Drawings and the dimensions given thereon shall be made only after approval in writing from the Contract Administrator.
- 2.12 All Drawings and Specifications and copies thereof are the property of the State and shall not be used by the Contractor or Subcontractor on other Projects.

PART 3 NOTICE

- 3.1 Any written notice by either party to the Contract shall be sufficiently given if delivered to or at the last known business address of the person, partnership or corporation constituting the other party to the Contract, or to his/her, their, or its duly authorized agent, representative, or officer, or when sent by registered mail to such last known business address. The last known business address shall be that location which is last provided in writing.
- 3.2 The parties shall provide their physical location/address, mailing address, telephone number, fax number, and, where available, pager number(s), email address(es), and other methods of contact for all persons associated with the Contract.

PART 4 ACCESS TO THE WORK

- 4.1 The Contractor shall provide for access to the work, at all times, for observation and/or inspection by the Department, Architect, Consultant, Engineer and government officials having jurisdiction. The Contractor shall provide proper facilities for such access and inspection.

PART 5 ACCIDENT PROTECTION

5.1 It is a condition of this Contract, and shall be made a condition of each subcontract entered into pursuant to the Contract, that the Contractor, any Subcontractors, or Independent Contractors shall not require any laborer or mechanic employed in the performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to the laborer's health or safety as determined by construction safety and health standards of the Occupational Safety and Health Administration, United States Department of Labor, which standards include, by reference, the established Federal Safety and Health Regulations for Construction. These standards and regulations comprise Part 1910 and Part 1926 respectively of Title 29 of the Code of Federal Regulations, as may be revised from time to time. In the event any revisions in the Code of Federal Regulations are published, such revisions will be deemed to supersede the appropriate Part 1910 and Part 1926, and be effective as of the date set forth in the revised regulation.

PART 6 HAZARDOUS MATERIALS

- 6.1 The Contractor shall also be aware of laws and regulations relating to hazardous materials that may be encountered during construction operations, either within project limits or at material sites off the project. The health and safety of employees, the general public, and the potential of damage to the overall environment is possible if hazardous materials are not recognized, reported, and the appropriate action taken to dispose of, remove from the site, or otherwise contain the possible contaminants.
- 6.2 If any abnormal condition is encountered or exposed that indicates the presence of a hazardous material or toxic waste, construction operations shall be immediately suspended in the area and the Contract Administrator notified. No further work shall be conducted in the area of the contaminated material until the site has been investigated and the Department has given approval to continue the work in the area. The Contractor shall fully cooperate with the State and perform any remedial work as directed. Work shall continue in other areas of the Project unless otherwise directed.
- 6.3 Exposure to hazardous materials may result from contact with, but not necessarily limited to, such items as drums, barrels, and other containers, waste such as cars, batteries, and building construction debris. Containers leaking unknown chemicals or liquids, abandoned cars leaking petroleum products, batteries leaking acid, construction debris which may include asbestos, or any other source of suspected hazardous material found within excavation areas or stockpiled on land within construction limits shall be referred to the Department of Environmental Services and Contract Administrator so that a proper identification of the materials may be made and disposal procedures initiated as required.
- 6.4 Disposition of the hazardous material or toxic waste shall be made under the requirements and regulations of the Department of Environmental Services. Work required to dispose of these materials and any remedial work shall be performed under a Supplemental Agreement or Contract item, if included in the Contract.

PART 7 SUBCONTRACTS

- 7.1 Nothing contained in the Specifications or Drawings shall be construed as creating any contractual relationship between any Subcontractor and the State. The Sections of the Specifications are not intended to control the Contractor in dividing the work among Subcontractors or to limit the work performed by any trade.
- 7.2 The Contractor shall be as fully responsible for the acts and omissions of Subcontractors and of persons employed by them, as he/she is for the acts and omissions of persons directly employed by him/her.
- 7.3 The Contractor shall, without additional expense to the State, utilize the services of specialty Subcontractors, as required to complete the work.
- 7.4 The Commissioner will not undertake efforts to settle or resolve any differences between the Contractor and Subcontractors or between Subcontractors.
- 7.5 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of Subcontractors and to give the Contractor the same power to terminate any subcontract that the Commissioner may exercise over the Contractor under any provisions of the Contract Documents.

PART 8 RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY

- 8.1 In case of any emergency that threatens loss or injury of property, and/or safety of life, the Contractor shall act as the situation may warrant. He/she shall notify the Contract Administrator thereof immediately thereafter. Any compensation claimed by the Contractor together with substantiating documents in regard to expense, shall be submitted to the Contract Administrator and the amount of compensation shall be determined by agreement.
- 8.2 In the event the Department learns of an emergency that threatens loss or injury of property, and/or safety of life, the Department shall notify the Contractor using the contact information provided pursuant to PART 3 herein. The Department may, but shall have no duty to take reasonable steps to mitigate the damage or loss to the Contractor. In either event, the Department shall have no duty to undertake any specific acts and shall have no liability for actions or inactions taken absent gross negligence.

PART 9 MUTUAL RESPONSIBILITY OF CONTRACTORS

- 9.1 If the Contractor or any of his/her Subcontractors or employees causes loss or damage to any separate Contractor or Subcontractor on the work, the Contractor or Subcontractor agrees to settle with such separate Contractor or Subcontractor by agreement, if he/she will so settle. If such separate Contractor or Subcontractor sues the State because of any loss so sustained, the Commissioner shall notify the Contractor and/or their Subcontractors, who shall indemnify and hold harmless the State against any expenses or judgment arising therefrom.

PART 10 PAYMENTS TO CONTRACTOR

- 10.1 The State will process payments to the Contractor each month on the basis of duly certified and approved estimates of the work performed during the preceding period. In preparing estimates, the material delivered on the site and any preparatory work done may be taken into consideration. Payments will only be approved in an amount no greater than the percentage of project completion, as determined by the Contract Administrator.
- 10.2 At least ten (10) days before the end of the billing period, the Contractor shall submit to the Contract Administrator, an itemized Requisition for Payment, supported by such data substantiating the Contractor's right to payment as the Commissioner may require. If payment is to be made for materials or equipment not incorporated in the work, but delivered and suitably stored at the site, or at some other location agreed upon in writing, such payment shall be conditional upon inspection and/or observation by the Department and submission by the Contractor of bills of sale or such other procedure satisfactory to the Commissioner to establish the State's title to such materials or equipment or otherwise protect the State's interest including applicable insurance and transportation to the site.
- 10.3 Immediately upon receipt of the Monthly Requisition for Payment, Contractor shall post same at the Contractor's Field Office or project site in a location where Subcontractors have clear access.
- 10.4 Retainage:
- A. Contract Payment Withheld: A 5% retainage shall be withheld from each Progress Payment until issuance of a Certificate of Substantial Completion.. The balance remaining after the specified percentage has been retained, less all previous payments, will be certified for payment on each partial estimate.
- ***** [OR] *****
- B. Irrevocable Letter of Credit: In lieu of retainage for Projects amounting to Five Hundred Thousand (\$500,000.00) or more, the Contractor, with the approval of the Commissioner, may provide the Commissioner with a Letter of Credit in an amount equal to five percent (5%) of the total adjusted Contract amount at the time of such request. Any such Letter of Credit must be irrevocable (that is, it may be modified or revoked only with the consent of the Commissioner). It shall have a termination date at least one hundred twenty (120) days after the completion date specified in the underlying Contract, or as may be altered in accordance with the Contract Documents, whichever is later. The Letter of Credit shall authorize the Commissioner to require the issuing financial institution to deposit with the State an amount equal to the retainage that would have been deducted from payment to the Contractor, as specified in 10.4.A. The Commissioner may utilize the amount so deposited in the same manner as retainage.
- 10.5 Retainage will be released at Final Payment.
- A. After the Certificate of Substantial Completion has been issued, upon written application by the Contractor and with the approval of the Surety, the Commissioner may release a portion of the retained amount.

10.6 Payment for Material On Hand:

- A. Partial payments are made for materials to be incorporated in the Work, provided the materials meet the requirements of the Contract and are delivered on, or in the vicinity of, the Project site and stored in acceptable places. Partial payments will not exceed 90 percent of the Contract unit price for the item or the amount supported by copies of paid invoices, freight bills, or other supporting documents required by the Department. The quantity paid will not exceed the corresponding quantity estimate in the Contract. No partial payment will be made on living or perishable materials until incorporated in the Work.
- B. When material payments exceed \$100,000 or 10 percent (10%) of the total contract amount, whichever is less, notarized copies of paid invoices or copies of canceled checks for all such materials must be submitted to the Contract Administrator within 45 days of the end date of the estimate on which the material allowance was paid. Failure to provide such documentation will result in the deduction of such material allowance from future estimates until documentation is provided.
- C. All material and work covered by partial payments made shall thereupon become the sole property of the State, but this provision shall not be construed as relieving the Contractor of the sole responsibility of all materials and work upon which payments have been made or the restoration of any damaged work or as a waiver of the right of the State to require the fulfillment of all the terms of the Contract.

10.7 Payment for Material Not on Hand:

- A. Upon receipt of a written request by the Contractor, partial payment may be made for acceptable, fully-fabricated, nonperishable materials not delivered that are unique to the Project provided the materials meet the requirements of the Contract and are stored in excess of 30 days at locations approved by the Department, and provided all required certificates of compliance, mill test reports, shop inspector's acceptance and any other required materials certification have been furnished. Materials shall be identifiable and accessible for inspection. Storage areas shall provide adequate protection so that such materials will meet the Contract requirements upon delivery to the site.
- B. Partial payment will be based on the actual cost to the Contractor as indicated on invoices furnished to the Contract Administrator. When material payments exceed \$100,000 or 10 percent of the total contract amount, whichever is less, notarized copies of paid invoices or copies of canceled checks for all such materials must be submitted to the Contract Administrator within 45 days of the end date of the estimate on which the material allowance was paid. Failure to provide such documentation will result in the deduction of such material allowance from future estimates until documentation is provided. Payment shall not exceed 90 percent of the bid price. NO payment will be made on materials for any item in the contract whose total dollar value is less than \$5,000. Approval of partial payment will not constitute final acceptance of the materials for use in completing items of work.

10.8 Release of Claims:

- A. Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall deliver a complete release of all claims arising under and by virtue of this Contract, including claims for all Subcontractors and suppliers of either materials or labor, plus a release of the Contract Bond and a statement that all Subcontractors and suppliers have been paid. The Commissioner, may pay any and all such claims, in whole or in part, and deduct the amount or amounts so paid from any partial or final payment.

10.9 Final Payment:

- A. Application for Final Payment received from the Contractor will be processed for payment not less than 90 days after project acceptance and final completion unless accompanied by a release of the Contract Bond. This payment shall be the amount of the Contract, amended by approved alteration orders, less previous payments minus liquidated damages, additional penalties or holdbacks. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

10.10 Acceptance of Final Payment Constitutes Release:

- A. The acceptance of the Final Payment by the Contractor shall be and shall operate as a release to the Contractor of all claims and of all liability to the State for all things done or furnished in connection with this work. No payment, however, final or otherwise, shall operate to release the Contractor and its Sureties from any obligations under this Contract or the Contract Bond. Acceptance of Final Payment shall not impact any warrantees provided by the Contractor with respect to this project.

PART 11 CONTRACTOR'S TITLE TO MATERIALS

- 11.1 No materials or supplies for the work shall be purchased by the Contractor or any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that good title has been obtained for all materials and supplies for which partial payment has been accepted. If any claim is made with respect to materials provided by the Contractor, Subcontractors, or Independent Contractors, the Contractor shall defend any such claim and shall pay any judgment or settlement thereon.

PART 12 CHANGES IN WORK

- 12.1 No charge for any extra work or material will be allowed without a fully executed Alteration Order. (Refer to Specification Section 01 2000-Price and Payment Procedures)
- 12.2 The Commissioner may at any time, by a written order, and without notice to the Sureties, make changes in the Drawings and Specifications and Completion Date of the Contract and within the general scope thereof.
- 12.3 If any part of the work as installed be at variance with the Contract requirements, the Department may allow all or any part of such work to remain in place, if found to be in the best interest of the State, subject to proper adjustment in the Contract Price. Acceptance of installed work in one instance or in any instance does not constitute a waiver of Specifications, General Conditions or contract requirements.

PART 13 PATENTS

- 13.1 The Contractor shall hold the State and its officers, agents, servants, and employees harmless from liability of any nature including cost and expenses, for or on account of any patented or unpatented invention, process, article or applicable items manufactured or used in the performance of the Contract, including its use, unless otherwise specifically stipulated in the Contract Documents.

PART 14 ASSIGNMENTS

- 14.1 The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due, hereunder, without the written consent of the Commissioner and of all Sureties executing any Bonds on behalf of the Contractor if in connection with said Contract.

PART 15 SUPERINTENDENCE BY CONTRACTOR

- 15.1 The Contractor shall have on the project site, at all times when work is being performed, a competent English speaking Superintendent capable of reading and thoroughly understanding the contract documents and thoroughly experienced in the type of work being performed, satisfactory to the Department. The Contractor shall not change superintendents without permission from the Department and shall submit a request in writing with justification for such a change.
- A. The Superintendent shall be responsible for verifying that all materials, installation, coordination, and workmanship are in conformance with the contract documents.
 - B. Unless the Department has granted prior written approval, the Superintendent shall not, himself, engage in "hands-on" construction work.
 - C. In the event the Superintendent fails or refuses to perform functions mentioned above as determined by the Department, the Contractor agrees to a stipulated penalty of \$1,200.00 per day, in addition to any liquidated damages provided hereunder.

PART 16 FAILURE TO COMPLETE WORK ON TIME

- 16.1 If the Contractor fails to complete all of the work or sections of the Project, if sections are indicated, within the time specified in the Contract or within any additional time allowed, for each working day the Liquidated Damages identified in 16.3 will be deducted from any money due the Contractor. This deduction will be made, not as a penalty, but as fixed, agreed liquidated damages for inconvenience to the State and for reimbursing the Department and Using Agency the cost of the Administration of the Contract, including personnel, time, engineering and inspection. Should the amount of money otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and its Surety shall be liable to the State for such deficiency.
- 16.2 If the Division of Public Works Design & Construction permits the Contractor to continue and finish the work after the time fixed for its completion, it shall in no way operate as a waiver on the part of the State of any of its rights under the Contract. When the final acceptance has been duly made by the Department, any liquidated damage charges shall end.

16.3 The fixed, agreed, liquidated damages shall be assessed in accordance with the following schedule:

Original Contract Amount, Plus Any Extras, Alteration Orders, and Alternates		Amount of Liquidated Damages Per Working Day
From More Than:	To and Including:	
\$0	\$25,000.00	\$200.00
\$25,000.00	\$50,000.00	\$250.00
\$50,000.00	\$100,000.00	\$400.00
\$100,000.00	\$500,000.00	\$450.00
\$500,000.00	\$1,000,000.00	\$800.00
\$1,000,000.00	\$2,000,000.00	\$1,200.00
\$2,000,000.00	\$5,000,000.00	\$1,600.00
\$5,000,000.00	\$10,000,000.00	\$2,000.00
\$10,000,000.00	and above	\$2,400.00

PART 17 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

- 17.1 The Contractor shall provide a signed Substantial Completion Application to the Contract Administrator when the work is believed to be substantially complete, in accordance with specification section 01 7000, accompanied by a list of items, referred to as the Punch List, to be completed or corrected. The failure to include any items of such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents. On the basis of an inspection by the Department who determines that the work is substantially complete, a Certificate of Substantial Completion will be issued.
- A. The Certificate of Substantial Completion shall:
1. Include any modifications to the Punch List or value as determined by the Department.
 2. Establish the Date of Substantial Completion.
 - a. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion.
 3. Identify the responsibilities of the State and the Contractor for security, maintenance, heat, utilities, and damage to the work and insurance.
 4. Fix the time limit within which the Contractor shall complete the items listed herein.
- 17.2 Partial Occupancy or Use: The State may take occupancy or use of completed or partially completed portions of the work upon written agreement between the Commissioner and the Contractor. Said partial occupancy or use shall have the approval of the insurer and Code enforcement authorities having jurisdiction. Said partial occupancy or use, (whether substantial completion has been obtained or not) provided the Department and Contractor have agreed upon written terms detailing each of the entities responsibilities in their entirety, may be exercised under these General Conditions.
- A. A Written agreement shall stipulate the time period for completion of all Work and the commencement date for all applicable contract warranties. Said written agreement shall be preceded by a Contractor generated listing of all incomplete Work, meeting with the approval of the Department, before partial occupancy or use is taken by the State with prior approval of the Division.
- 17.3 If the Contractor fails to complete the items on the "punch list," by the date specified on the Substantial Completion Certificate, then in addition to the corrective measures listed in the Certificate of Substantial Completion, the State may use the monies still due the Contractor to have such items completed and the Contractor shall lose any claim to the monies so used. The Surety may be notified of any delay or failure to complete the work.
- 17.4 Upon written notice that the work is ready for final inspection and acceptance, the Department shall promptly make such inspection, to determine the work is acceptable under the Contract Documents and the Contract fully performed. The Contractor shall submit a request for payment, specifically identifying Final Payment. The Contractor shall provide all certificates and reports, as required, throughout the contract and shall coordinate their preparation and submission prior to request for final payment. Failure to submit such certificates and reports shall be considered default of contract.

PART 18 DEFAULT AND TERMINATION OF CONTRACT

18.1 If the Contractor:

- A. Fails to begin work under Contract within the time identified in specification section 01 1000.
- B. Fails to perform the work with sufficient workers and equipment, or with sufficient materials to assume prompt completion of said work, or
- C. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- D. Discontinues the prosecution of the work, or
- E. Fails to resume work, which has been discontinued, within a reasonable time after notice to do so, or
- F. Becomes insolvent or has declared bankruptcy, or commits any act of bankruptcy or insolvency, or
- G. Makes an assignment for the benefit of creditors, or
- H. For any other causes whatsoever, fails to carry on the work in an acceptable manner.

18.2 The Commissioner will give notice, in writing, to the Contractor and his Surety for such delay, neglect, and default for any item identified above.

- A. Upon receipt of Notification of Default and the Contractor or Surety does not proceed in accordance with said Notification, then the Commissioner will Terminate the Contract. Upon which, the Commissioner shall have full power and authority, without violating the Contract, to assume the prosecution of the work. The Commissioner may enter into one or more agreements for the completion of said Contract according to the terms and conditions thereof, or use such other methods as will be required for the completion of said Contract in an acceptable manner.
 - 1. All extra costs and charges incurred by the Department as a result of such delay, neglect or default, together with the cost of completing the work under the Contract will be deducted from any monies due or which may become due said Contractor. If such expenses exceed the sum that would have been payable under the Contract, then the Contractor and the Surety shall be liable and shall pay to the Department, the amount of such excess.

PART 19 TERMINATION OF CONTRACT WITHOUT FAULT

- 19.1 Except in cases controlled by the preceding section, the Commissioner, for any cause, including, but not limited to an order of any Federal authority or petition of the Contractor due to circumstances beyond its control may, by written notice to the Contractor and the Surety, with the concurrence of the Governor and Council, terminate the Contract or any portion thereof subject to the Condition(s) A, B, C, and D provided below.
- 19.2 Notwithstanding anything to the contrary contained in these conditions, it is understood and agreed by the parties hereto that all obligations of the Department hereunder, including the continuance of payments, are contingent upon the availability and continued appropriation of State and/or Federal Funds, and in no event shall the Department be liable for any payments hereunder in excess of such available or appropriated funds. In the event of a reduction, termination or failure to appropriate any or all such available funds or appropriations or a reduction of expenditures of State funds by the Advisory Budget Control Committee, the Commissioner may, by written notice to the Contractor and Surety, immediately terminate this Contract in whole or in part in accordance with the following conditions:
- A. When a Contract, or portion thereof, is terminated before completion of all items of work in the Contract, payment will be made for the actual items of work completed. Payment of items of work not completed at time of termination shall be the greater of the following amounts:
 - 1. A percentage of the Contract unit price, which percentage shall be the percentage of completion of the particular item at time of termination.
 - 2. Such amount as shall be mutually agreed upon by the parties. No claim for loss of anticipated profits on items or units of work not completed will be allowed.
 - B. Reimbursement for organization of the work and mobilization, when not otherwise included in the Contract, shall be made where the volume of work completed is too small to compensate the Contractor for these expenses under the Contract; the intent being that an equitable settlement be made with the Contractor.
 - C. Acceptable materials, obtained or ordered by the Contractor for the work, and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor based upon the delivered cost of the materials at such points of delivery as may be designated by the Department. The Contractor shall do everything possible to cancel unfilled orders.
 - D. Termination of a Contract, or a portion thereof, shall not relieve the Contractor of its responsibilities for the work completed nor shall it relieve the Surety of its obligations for and concerning any claims arising out of the work performed.

PART 20 ASSIGNMENT PROVISION

- 20.1 The Contractor hereby agrees that it will assign to the State, all causes of action that it may acquire under the anti-trust laws of New Hampshire and the United States as a result of conspiracies, combinations of contracts in restraint of trade which affect the price of goods or services obtained by the State under this Contract, if so requested by the State.

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DOCUMENT 00 0818

SUPPLEMENTARY CONDITIONS – DPW

PART 1 GENERAL

1.1 SUMMARY

- A. The following supplements modify, change, delete or add to the General Conditions. Where any part of the General Conditions are modified or voided by these sections, the unaltered provisions of that part shall remain in effect.

1.2 MODIFICATIONS TO VARIOUS ARTICLES OF THE GENERAL CONDITIONS

- A. Part 15, Superintendence by Contractor
 - 1. Approval is hereby granted for the Superintendent to perform work, solely as ancillary services to their primary role as Superintendent's work on the Project.

END OF DOCUMENT

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SECTION 01 1000

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site and premises.
- C. Work sequence.
- D. State occupancy.
- E. Specification Conventions.

1.2 CONTRACT DESCRIPTION

- A. Work of the Project includes repair and replacement of fire alarm panels and/or devices in specific courts facilities statewide. Locations are:
 - 1. 3rd Circuit - Family Division, 35 East Conway Road, Center Conway, NH 03813
 - 2. 1st Circuit - District Division, 55 School Street #201, Lancaster, NH 03584
 - 3. 9th Circuit - District Division, 30 Spring Street, Nashua, NH 03060
 - 4. 2nd Circuit - District Division, 26 Green Street, Plymouth, NH 03264
- B. SITE EXAMINATION
 - 1. Examine Project site(s) before submitting a Bid.
 - 2. To schedule a visit to sites prior to bid opening, reach out to Timothy Smith at Timothy.d.smith@das.nh.gov
- C. Perform Work of Contract under stipulated lump sum base bid contract with State in accordance with Conditions of Contract.
- D. The Contractor shall, except as otherwise specifically stated in the Contract Documents, provide and pay for all materials, labor, tools, equipment, water, heat, fuel, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

1.3 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. State occupancy.
 - 2. Use of site and premises by the public.

- B. Emergency Building Exits During Construction: Shall be maintained and all building entrances and exits shall remain functional.
- C. Construction Operations: Limited to areas noted on Drawings.
- D. Time Restrictions for Performing Exterior Work: Normal working hours of 7:00 am to 4:00 pm, Monday through Friday with the following restrictions:
 - 1. No access during the following observed holidays:
 - a. New Year's Day.
 - b. Martin Luther King Jr. Civil Rights Day.
 - c. Washington's Birthday (President's Day).
 - d. Memorial Day.
 - e. Independence Day.
 - f. Labor Day.
 - g. Veterans' Day.
 - h. Thanksgiving Day.
 - i. Day after Thanksgiving.
 - j. Christmas Day.
 - 2. Access for work outside of normal working hours shall be requested in writing to the Contract Administrator, at least one week in advance. The Contract Administrator may accept or reject the request.
- E. Utility Outages and Shutdown: Shall be coordinated with the building users to minimize disruption of services, and may require work to take place outside of normal working hours.

1.4 WORK SEQUENCE

- A. Work shall commence within 15 days after issuance of Notice to Proceed. Failure to comply shall constitute Default of Contract.

1.5 STATE OCCUPANCY

- A. The State will occupy the site and premises during the entire period of construction.
- B. Cooperate with State to minimize conflict, and to facilitate State's operations.
- C. Schedule the Work to accommodate State occupancy.

1.9 SPECIFICATION CONVENTIONS

- D. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

PART 2 PRODUCTS Not Used.

PART 3 EXECUTION Not Used.

END OF SECTION

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SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Bid Items
- B. Allowances.
- C. Schedule of values.
- D. Requisition for payment.
- E. Change procedures.
- F. Defect assessment.
- G. Unit prices.
- H. Alternates.

1.2 BID ITEMS

- A. **Item 901** All work related to Center Conway Courthouse as described in the documents.
- B. **Item 902** All work related to Lancaster Courthouse as described in the documents.
- C. **Item 903** All work related to Nashua Courthouse as described in the documents.
- D. **Item 904** All work related to Plymouth Courthouse as described in the documents.

1.3 ALLOWANCES

- A. **Item 905** Allowance: Include in the Contract, a stipulated sum/price of \$25,000.00 for use upon the Bureau's discretion. This Allowance will make money available for modifications and/or additions to contract items due to owner-initiated changes, or for unknown, latent or differing existing conditions, or for the removal of hazardous materials that are encountered by construction.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Allowance. The cost of the bond for the amount of Allowance shall be included as part of the lump sum base bid.
- C. Funds will be drawn from an Allowance only by Change Order. Contractor can proceed with Change Order Work against Allowance with direction from the Contract

Administrator. The Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.

- D. Credits can only be added to an Allowance by Alteration Order. The Contractor may not use a credit until an Alteration Order is fully executed.
- E. Notwithstanding the Contractor's objection, the Contract Administrator may at any time reduce the funds remaining in the Allowance by Alteration Order.
- F. At Final Payment of the Contract, funds remaining in the Allowance will be credited to the State.

1.4 SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after date of issuance of Notice to Proceed. Failure to submit within specified time period will constitute Default of Contract.
- C. Format: Utilize Table of Contents of these Specifications. Identify each line item with number and title of major specification Section. Identify bonds and insurance, allowances, and alternates (if any).
- D. Include a separate line item for the amount of each Allowance and Alternates specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.
- E. Revise schedule to list approved Alteration Orders, with each Requisitions For Payment.

1.5 REQUISITION FOR PAYMENT

- A. Submit three copies of each application on the Bureau's Requisition for Payment Form.
- B. Content and Format: Items on the Requisition for Payment shall be consistent with the items on the Proposal Form. Utilize the Schedule of Values as documentation for payment items.
- C. Submit updated construction schedule with each Requisition for Payment.
- D. Payment Period: Submit at intervals stipulated in Document 00 0708 General Conditions – NHDAS-DPW, Item 10.
- E. Submit with transmittal letter as specified in Section 01 3300.
- F. Substantiating Data: When the Contract Administrator requires substantiating information, submit data justifying dollar amounts in question.

- G. Include the following with Requisition for Payment, payment will not be processed if any items are missing or incomplete:
1. Current construction photographs specified in Section 01 3300.
 2. Record documents as specified in Section 01 7000, for review by the Contract Administrator, which will be returned to Contractor.
 3. Affidavits attesting to off-site stored products.
 4. Construction progress schedules, revised and current as specified in Section 01 3300.

1.6 CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Contract Administrator will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time, or that may be necessary to carry out the work included in the Contract, by issuing supplemental instructions.
- C. The Contract Administrator may issue a Proposal Request including a detailed description of proposed change(s) with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. The Contractor will prepare and submit estimate within ten days.
- D. Contractor may propose changes by submitting a request for change(s) to the Contract Administrator, describing proposed change and its full effect on the Work. Each request shall be a separate item and sequentially numbered. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors.
- E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by the Contract Administrator. Submit the breakdown of the following items on a Bureau Stipulated Sum/Price Change Order Form for review and approval by the Contract Administrator:
1. The Contractor shall include the following indirect costs for work performed by the General Contractor as part of the Contractors' price:
 - a. Worker's Compensation and Employee Liability.
 - b. Unemployment and Social Security Taxes.
 2. In addition to the above indirect costs the General Contractor shall be allowed the following markups:
 - a. Twenty percent (20%). Said twenty percent (20%) shall be all inclusive for overhead, supervision, and profit for Work performed by the General Contractor
 - b. Materials (Actual Cost + 10%): For all materials entering permanently into the work plus freight charges thereon, and for all labor not entered directly on his payroll, the Contractor will receive the actual cost, as shown by original receipted bills forwarded to the Contract Administrator, to which cost will be added an amount equal to ten

- percent (10%) of the sum thereof. Bills presented by the Contractor for material taken back from his stock will be subject to the ten percent (10%) allowance if approved by the Contract Administrator.
- c. Equipment (Reasonable Rental Charge + 0%): For any trucks, machinery or special equipment, the Contractor will receive a reasonable rental charge to which sum no percentage will be added. This rental charge shall be agreed upon in writing before the work is begun and shall include an operator and all fuel, lubricants, and the upkeep of the equipment. Equipment does not include small tools and accessories for small tools.
 - d. Ten percent (10%) on that part of work performed by Subcontractors.
 - e. The same percentages above shall apply to Subcontractors.
3. On any change that involves a net credit to the State, no allowance for overhead, supervision and profit shall be figured.
 4. Extension of Contract Time: State any requests for extension of Contract Time with justification for such a request.
- F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- G. Construction Change Directive: The Contract Administrator may issue directive, signed by the Bureau Administrator or Assistant Administrator, instructing the Contractor to proceed with change in the Work, for subsequent inclusion in a Time and Material Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change. Failure to comply will result in Default of Contract.
- H. Time and Material Change Order: Submit itemized account and supporting data within 10 days of completion of change. The Contract Administrator will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
1. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
 2. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation. If acceptable, a Change Order for a Not to Exceed Amount will be prepared.
 3. The Contractor as payment in full, including superintendence and overhead, shall accept the compensation herein provided and profit, for extra work performed. For all such work, the Contractor shall furnish certified copies of the payrolls on forms provided for that purpose, invoices of all materials, and such other information as may be required by the Contract Administrator. Submit the breakdown of items on a Bureau Time and Material Change Order Form for review and approval by the Contract Administrator:
 - a. Labor (Actual wage + 40%): The Construction Superintendent is responsible for logging the time for each individual. For all laborers and foremen engaged on the specific operation and entered directly on the

- Contractor's payroll, the Contractor will receive the actual rate of wage for each, and every hour said laborers and Foremen are actually engaged in such work to which will be added an amount equal to forty percent (40%) of the sum thereof, which percentage shall include the cost percentages of the following items as applied to the labor cost involved:
- 1) Contract Bond Premium.
 - 2) Public Liability Insurance.
 - 3) Worker's Compensation Insurance.
 - 4) Federal Social Security.
 - 5) Unemployment Compensation Taxes
- b. Materials (Actual Cost + 10%): For all materials entering permanently into the work plus freight charges thereon, and for all labor not entered directly on his payroll, the Contractor will receive the actual cost, as shown by original receipted bills forwarded to the Contract Administrator, to which cost will be added an amount equal to ten percent (10%) of the sum thereof. Bills presented by the Contractor for material taken back from his stock will be subject to the ten percent (10%) allowance if approved by the Contract Administrator.
 - c. Equipment (Reasonable Rental Charge + 0%): For any trucks, machinery or special equipment, the Contractor will receive a reasonable rental charge to which sum no percentage will be added. This rental charge shall be agreed upon in writing before the work is begun and shall include an operator and all fuel, lubricants, and the upkeep of the equipment. Equipment does not include small tools and accessories for small tools.
4. In addition to the above costs the General Contractor shall be allowed the following markups:
 - a. Twenty percent (20%). Said twenty percent (20%) shall be all inclusive for overhead, supervision, and profit for Work performed by the General Contractor
 - b. Ten percent (10%) on that part of work performed by Subcontractors.
 - c. The same percentages above shall apply to Subcontractors.
 5. Extension of Contract Time: State any requests for extension of Contract Time with justification for such a request.
- I. Any Changes that result in a credit to any portion of the contract and/or a change in the Contract Time must be processed as an Alteration Order except as provided for in Item I.2E.
 - J. Execution of Alteration Orders: Bureau of Public Works will issue Alteration Orders per the following procedures.
 1. The Contract Administrator reviews cost for Change in Work with the Using Agency and Consultant(s). If needed the Contract Administrator will request additional items, back-up information, and request any possible changes or clarifications.
 2. Bureau Accountant will prepare an Alteration Order on a Bureau form.
 3. Bureau Administrator or Assistant Administrator will issue the Alteration Order to the Contractor for review and signature.
 4. Contractor submits signed Alteration Order to the Bureau Administrator.

5. The Bureau completes the Alteration Order with the signature of the Bureau Administrator or Assistant Administrator.
 6. A fully signed and executed Alteration Order is issued to Contract Administrator, Clerk of the Works, Contractor, and Using Agency.
- K. Execution of Change Orders: The Contractor is responsible for preparing and updating a spreadsheet log itemizing all Proposed Changes. A separate spreadsheet shall be completed for each Allowance Item. The spreadsheet shall include columns for Proposed Change Number, Description, Amount of Change, Status, and Approved Amounts. In addition, a current balance remaining shall be included. Change Orders will be processed per the following procedures:
1. The Contract Administrator reviews cost for Change in Work with the Using Agency and Consultant(s). If needed the Contract Administrator will request additional items, back-up information, and request any possible changes or clarifications.
 2. Contract Administrator and Using Agency Representative signs Change Order.
 3. Contractor can proceed with Change Order Work with direction from the Contract Administrator.
 4. Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.
 5. Fully signed and executed Change Order is issued to the Contract Administrator, Clerk of the Works, Contractor, and the Using Agency.
- L. Correlation Of Contractor Submittals:
1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Alteration Order as separate line item and adjust Contract Sum/Price.
 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 3. Promptly enter changes in Project Record Documents.
- 1.7 DEFECT ASSESSMENT
- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
 - B. If, in the opinion of the Contract Administrator, it is not practical to remove and replace the Work, the Contract Administrator will direct appropriate remedy or adjust payment.
 - C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of the Contract Administrator.
 - D. Defective Work will be repaired to instructions of and acceptance by the Contract Administrator, and unit sum/price will be adjusted to new sum/price at discretion of the Contract Administrator.
 - E. Authority of the Contract Administrator to assess defects and identify payment adjustments, is final.

- F. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
 2. Products determined as unacceptable before or after placement.
 3. Products not completely unloaded from transporting vehicle.
 4. Products placed beyond lines and levels of required Work.
 5. Products remaining on hand after completion of the Work.
 6. Loading, hauling, and disposing of rejected products.

1.8 UNIT PRICES

- A. NONE

1.9 ALTERNATES

- A. NONE

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Permits and fees.
- C. State Labor Requirements
- D. Steel Fabrication Requirements
- E. Field engineering.
- F. Preconstruction meeting.
- G. Site mobilization meeting.
- H. Progress meetings.
- I. Pre-installation meetings.
- J. Cutting and patching.
- K. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of the Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements [, with provisions for accommodating items installed later].
- B. Comply with the “Underground Utility Damage Prevention System” per NH RSA 374 Sections 48 through 56 by notification to DIG-SAFE SYSTEM, Inc., of intent to excavate within 100 feet of an underground utility. Contact DIG-SAFE at 1-888-334-7233 (1-888-DIG-SAFE) or on-line at <http://www.digsafe.com> at least seventy-two (72) hours in advance of starting any excavation. Saturday, Sundays, and legal holidays are not included in the computation of the required seventy-two (72) hour notice.
- C. Maintain proper environmental conditions for installation of all building components and materials. This shall include but not be limited to manufacturers recommended temperature and humidity requirements. Maintain a weather tight building envelope and protect new work from any kind of spillage.

- D. Prior to the start of any Work, provide an independent company to locate utilities potentially affected by the Work and as shown and/or identified in the Contract Documents. All utilities shall be identified by the Contractor on the Record Drawings.
- E. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- F. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- G. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- H. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion [and for portions of Work designated for State's [partial] occupancy].
- I. After State occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of State's activities.

1.3 PERMITS AND FEES

- A. Obtain and pay for all construction licenses, permits, and fees as may be required by law for construction of State's facility, and pay for all fees and charges, and use of the property other than the site of the work for storage of materials or other purposes. This includes permits and fees for State ADA (if required) and SHPO (if required).
 - 1. Per "**Saf-C 8100 State Building Permit System**" a Building Permit shall be obtained by the Contractor from the **Office of the State Fire Marshal (SFMO)**.
 - 2. **A Construction Permit has been applied for by the Division of Public Works.**
 - a. A complete set of Construction Documents has been submitted to the State Fire Marshal Office for review by DPW.
 - b. An application for building permit has been submitted to the State Fire Marshal Office by DPW to initiate review.
 - c. A copy of the SFMO **approval letter** will be transmitted to the awarded Contractor at the pre-construction meeting. This will include the original SFMO application number.
 - d. A copy of the **permission to sign as owner agent letter** will be transmitted to the awarded Contractor at the pre-construction meeting; and is included at the end of this section.
 - 3. After award, DPW will notify the SFMO of the identity of the awarded Contractor.
 - 4. After award, the Contractor will create a Collaborator Profile through the SFMO permitting software MYGOV, if one is not already created.

- a. Instructions for becoming a ‘Collaborator’ on MYGOV are attached at the end of this section.
 - b. Public Portal here: https://public.mygov.us/divisionoffiresafety_nh
 - c. “AGENCY” on MYGOV site refers to the “State of New Hampshire Division of Fire Safety.”
 - d. **Contractor will need to RE-APPLY for permit by completing a new application and paying the required fees for each permit required.**
 - e. Contractor will need to submit electronic drawings for ‘review’ by the SFMO. Since the SFMO has already reviewed the set. This review should take no more than a couple days. Actual review will have been completed. If ‘review’ takes more than 5 working days, please notify the Contract Administrator.
 - f. Contractor will need to submit a scan of the SFMO approval letter, received at the pre-construction meeting.
5. **Permit applications for the Trades (Mechanical, Mechanical gas, Electrical, Fire Protection, Plumbing and SWPPP) are ‘sub-permits’ to the Building Construction Permit and each requires a separate application and payment.**
6. **Application for ALL Permits must be submitted through MYGOV electronic permitting system. Direct questions to the State Fire Marshal’s Office: (603) 223-4289; DOS.FMO.INSPEC@DOS.NH.GOV.**
7. **When applying for a permit you will need the following:**
- a. Drawings and Specifications in electronic format. (Bid Documents).
 - b. A copy of the **SFMO approval letter** (Letter will be given to the Contractor by DPW at the pre-construction meeting).
 - c. **Basic Project Information** including address, project name, description (ref Section 01100 “summary”), etc.
 - d. **Basic Contractor/Subcontractor/Design Professional information**
 - e. A copy of **Permission to Sign Letter** from the DAS Commissioner must be copied and attached to EVERY APPLICATION by the applicant.
 - f. **Payment** for the permit fee.
8. **Please direct all questions related to permitting process and fees to District Chief Phil Biron at the Office of the State Fire Marshal – (603) 223-4289.**
9. **Fees for all re-inspections shall be paid by the Contractor as stated on the application form.**
10. **Immediately upon receipt of Permits from the Office of the Fire Marshal, Contractor shall transmit copies to the Contract Administrator.**
11. **NOTE: along with Permits the State Fire Marshal’s Office will issue:**
- a. A list of required inspections will be provided on the issued permit and the MYGOV Portal. All inspections will be maintained in the MYGOV Portal and available through the Collaborator Profile.
 - b. A set of ‘approved’ drawings bearing the SFMO stamp and signature. This set, or a set covered by the ‘approved’ cover sheet shall become the record set on site and be maintained throughout the project for use by the SFMO and Clerk of the Works.
 - c. Permits may be applied for, and Inspections may be requested at MYGOV, and at DOS.FMO.INSPEC@DOS.NH.GOV and by telephone at (603) 223-4289.
12. **Contractor shall post all paid Permits at the Contractor’s Field Office or project site in a conspicuous location prior to beginning the work.**

13. **Fees for interface with municipal (Town or City) and/or Private Infrastructure (Liberty, Eversource, Etc.) must be applied for and paid for separately from this permit process. The General Contractor is responsible to apply for, obtain and pay for required permits from each municipality and/or Private company as required. Unless noted otherwise in the Construction Documents.**
- B. Pay all applicable Federal, State, and Local sales and other taxes, except taxes and assessments on the real property comprising the site of the Project.
- C. **The Contractor's attention is called to RSA 72-B, Excavation Tax and related administrative rules of the Department of Revenue Administration, which among other provisions, levies a tax on earth and excavations as defined in RSA 155-E. The Contractor is required, on a yearly basis, to file a Notice of Intent to Excavate in each municipality where excavation operations are anticipated. Additionally, the Contractor shall post the Excavation Tax Certificate, received from the Dept of Revenue Administration, at the contractor's project bulletin board.**
- D. **Contractor must file with the Federal Aviation Administration in accordance with CFR Title 14 Part 77.9 at least 45 days prior to construction.**

1.4 STATE LABOR REQUIREMENTS

- A. Work Certificate for Contractors Before Beginning Their Work on Public Projects
 1. Pursuant to RSA 21-I:80 and RSA 228:4-b, prior to any work being done by an individual contractor, such contractor, including ALL subcontractors and independent contractors, shall provide a Work Certificate for Contractors Before Beginning their Work on Public Projects (Work Certificate) to the Contract Administrator. Sample form can be obtained at <http://das.nh.gov/publicworks/pwdocuments.asp>
 2. The Work Certificate of this Contractor is required to be provided for APPROVAL of the Contract. This Work Certificate shall be provided to the Contractor during the Contract approval process by the NH DOT Bureau of Finance & Contracts. All required information shall be completed with attached documentation and shall be returned to the NH Department of Transportation, Bureau of Finance and Contracts.
 3. Subcontractors, including main and lower tier, will not be allowed to perform any work until their Work Certificates have been submitted to the Contract Administrator via this Contractor.
 4. This Contractor shall maintain a log of all submitted subcontractor Work Certificates on-site. The log shall identify all main and lower-tier subcontractors and the status of the Work Certificate submission. This log shall be reviewed at each Progress Meeting to coordinate scheduled work with required Work Certificate submissions. An up-dated log shall be submitted with each Payment Application.
 5. This Contractor shall keep a copy of all Work Certificates on the jobsite, either in electronic or hardcopy form.

- B. The Contractor shall obey all applicable State and Federal Labor laws.
- C. Pursuant to RSA 21-I:81-a, the Contractor shall provide to the Contract Administrator a list of the names and addresses of the CEO, CFO, other LLC principals, and each subcontractor to be used in the performance of the contract. This list shall be provided at the Preconstruction meeting. The name and address of each subcontractor shall be provided on the Subcontractor/Employee Master List (below).
- D. The Contractor shall maintain a Subcontractor/Employee Master List (Master List) of all personnel performing work on the job site, including the Contractor's employees, all subcontractors and subcontractor employees, and all independent contractors. Pursuant to RSA 21-I:81-b, the Master List shall identify which entity has hired each subcontractor and independent contractor and which entity is providing Workers Compensation coverage for the on-site personnel. The Master List shall also confirm that each employee has an OSHA-10 certification as required per RSA 277:5-a. Subcontractors and independent contractors will not be allowed to perform any work until they have been correctly identified on the Master List. A sample Master List document, created in Microsoft Word, can be obtained at <http://das.nh.gov/publicworks/pwdocuments.asp> . The initial Master List submission shall be at the Preconstruction meeting.
- E. The Master List shall be posted on the jobsite and updated as needed to reflect any new subcontractors and independent contractors. The Master List shall be reviewed at each Progress Meeting. On a monthly basis, the Contractor shall provide to the Contract Administrator a .pdf or Microsoft Word file of the Master List, showing all current subcontracts.
- F. The Contractor shall maintain a daily log-in sheet of all personnel performing work on the jobsite. Personnel shall list their name, name of employer or identify themselves as independent contractors. No contractor, subcontractor or independent contractor performing work on the job site shall be allowed on site without first signing the daily log-in sheet.
- G. The Contractor shall verify that personnel listed on the daily log-in sheet are also listed on the Master List. If personnel are not listed on the Master List, they will not be allowed on site until their employer has certified, in writing, that the employee is covered under Workers Compensation coverage for the appropriate work classification noted on the Work Certificate.
- H. The Contractor shall post six (6) mandatory labor posters in a conspicuous, weather-tight place at the jobsite: Protective Legislation Law; Criteria to Establish an Employee or Independent Contractor; NH Minimum Wage Law; and Whistleblowers Protection Act; Workers Right to Know; Equal Pay Law. These posters can be found at the NH Dept. of Labor website <https://www.nh.gov/labor/forms/mandatory-posters.htm>
- I. The Contractor shall maintain, on the jobsite, copies of OSHA-10 certificates for all personnel listed on the Master List and required per RSA 277:5-a to have OSHA-10 certificates.

1.5 STEEL FABRICATION REQUIREMENTS

- A. Pursuant to NH RSA 21-I:11 (III), the following shall be incorporated into the Work.
1. Notwithstanding any law to the contrary relating to procurement and to the extent permitted by federal law, any contract for construction, reconstruction, alteration, repair, improvement, or maintenance of a public building or public works with the state as a party shall contain a provisions that for the permanently incorporated iron, structural steel, and fabricated structural steel used or supplied in the performance of the contract or any subcontract, strong consideration and preference shall be given for iron or steel fabricated in the United States. If the competitive bidding process results in all qualifying factors being equal, the contract shall be awarded to the contractor offering steel fabricated in the United States. In instances where qualifying factors are equal, absent of low price, and using domesticated structural steel, the state may reserve the option to purchase steel fabricated in the United States.
 2. If a court or federal or state agency has determined that any person intentionally affixed a "Made in America" label to structural steel under this paragraph that was not made in the United States or otherwise falsely represented that structural steel under this paragraph was produced in the United States, the department of administrative services shall withhold contract payment until the structural steel can be replaced, or the noncompliance of this paragraph is otherwise remedied. Failure to comply with and/or produce a satisfactory remedy to the state may result in debarment proceedings under RSA 21-I:11-c, III.
 3. If any provision of this paragraph or application thereof is held to be invalid or in conflict with any applicable laws, this invalidity or conflict shall not affect the other provisions or applications which shall be given affect without the invalid provisions or applications, and to this end, the provisions and applications of this paragraph are severable.

1.6 FIELD ENGINEERING

- A. Employ Engineer or Land Surveyor registered in State of New Hampshire.
- B. Locate and protect survey control and reference points. Promptly notify the Contract Administrator of discrepancies discovered.
- C. Control datum for survey that is shown on Drawings.
- D. Verify set-backs and easements; confirm drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- F. Submit copy of site drawing and certificate signed by Engineer or Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.
- G. Maintain complete and accurate log of control and survey work as Work progresses.

- H. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- I. On completion of foundation walls and major site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.
- J. Promptly report to the Contract Administrator loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- K. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to the Contract Administrator.

1.7 PRECONSTRUCTION MEETING

- A. The Contract Administrator will schedule meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required (unless otherwise waived): Contract Administrator, Clerk of the Works, Using Agency Representative(s), Architect/Engineer, Contractor, Contractor's Superintendent, and major Subcontractors.
- C. Potential Agenda Topics:
 - 1. Distribution of Contract Documents. The Contract is responsible for any and all reproduction of Contract Documents.
 - 2. The Contractor shall submit Work Certificate(s) (as defined in this Section) for the Contractor and all known subcontractors.
 - 3. Submission of Work Certificate Log.
 - 4. Submission of names and addresses of the Contractor's CEO, CFO, other LLC principals, and each subcontractor. The name and address of each subcontractor shall be reported on the Master List.
 - 5. Submission of Master List of subcontractors and all personnel expected to be on site.
 - 6. Review daily log-in sheet requirement and format. Contractor shall verify that personnel listed on log-in sheet are also on Master List.
 - 7. Review file of OSHA-10 certificates for all on-site personnel required to be certified per RSA 277:5-a.
 - 8. Verify that all mandatory labor posters are posted in a conspicuous, weather-tight place.
 - 9. Submission of list of products, schedule of values, and progress schedule.
 - 10. **Submittal and posting of Excavation Tax Certificate, as required per RSA 72-B if over 1000CY of material are anticipated to be removed from the site.**
 - 11. Designation of personnel representing parties in Contract.
 - 12. Use of premises by State and Contractor.
 - 13. State's requirements [and [partial] occupancy].
 - 14. Construction facilities and controls provided by State.
 - 15. Temporary utilities provided by State.
 - 16. Survey and [building] [] layout.
 - 17. Security and housekeeping procedures.
 - 18. Schedules.

19. Traffic Control Plan.
 20. Application for payment procedures.
 21. Procedures for testing.
 22. Procedures for maintaining record documents.
 23. Requirements for start-up of equipment.
 24. Inspection and acceptance of equipment put into service during construction period.
- D. Contract Administrator shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

1.8 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum weekly intervals.
- B. Attendance Required (unless otherwise waived): Contract Administrator, Clerk of the Works, Using Agency Representative(s), [Architect/Engineer,] [Special Consultants,] Contractor, Contractor's Superintendent, and major Subcontractors.
- C. Potential Agenda Topics:
1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems impeding planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review Work Certificate Log.
 7. Review Master List of subcontractors and on-site personnel.
 8. Review daily log-in sheets. Contractor shall verify that all personnel on log-in sheets are on Master List and all OSHA-10 certificates required per RSA 277:5-a are on file.
 9. Review of off-site fabrication and delivery schedules.
 10. Maintenance of progress schedule.
 11. Corrective measures to regain projected schedules.
 12. Planned progress during succeeding work period.
 13. Traffic Control Plan.
 14. Coordination of projected progress.
 15. Maintenance of quality and work standards.
 16. Effect of proposed changes on progress schedule and coordination.
 17. Other business relating to Work.
- D. Consultant shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

1.9 PRE-INSTALLATION MEETING(S)

- A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify the Contract Administrator seven days in advance of meeting date.
- D. Contractor shall prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Contractor shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of State or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.

- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, roof, or floor construction; completely seal voids.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated assembly appropriate to the wall type penetrated, and compliant with the appropriate UL Detail for that penetration and wall/floor/deck type.
- J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- K. Identify hazardous substances or conditions exposed during the Work to the Contract Administrator for decision or remedy.

3.2 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products [and salvaged products] for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Close openings in exterior surfaces to protect work from weather and extremes of temperature and humidity. Provide temporary heating, cooling and dehumidification systems for specific product requirements identified within specification sections.
- H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.
- I. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

- K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Contract Administrator for review.
- L. Where change of plane of 1/4 inch (6mm) or more occurs, submit recommendation for providing smooth transition to Contract Administrator for review.
- M. Trim existing doors to clear new floor finish. Refinish trim to specified condition.
- N. Replace portions of existing and new surfaces, which are damaged, lifted, discolored, or showing other imperfections, which do not conform to product specifications.
- O. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- P. Finish surfaces as specified in individual product sections.

END OF SECTION

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State of New Hampshire

DEPARTMENT OF ADMINISTRATIVE SERVICES

25 Capitol Street - Room 100
Concord, New Hampshire 03301
(603) 271-3201 | Office@das.nh.gov

Charles M. Arlinghaus
Commissioner

Catherine A. Keane
Deputy Commissioner

Sheri L. Rockburn
Assistant Commissioner

November 1, 2022

Sean P. Toomey, Fire Marshal
NH State Fire Marshal Headquarters
Incident Planning and Operations Center (IPOC)
110 Smokey Bear Blvd.
Concord, NH 03301

RE: Permission for contractors to sign permits for projects under contract with the Department of Administrative Services, Division of Public Works Design and Construction.

Dear Fire Marshal Toomey:

I hereby give my permission for contractors who have an active contract with the State of New Hampshire Department of Administrative Services, Division of Public Works Design and Construction to sign construction permit applications as an agent of the "owner".

Sincerely,

A handwritten signature in black ink, appearing to read "Charles M. Arlinghaus".

Charles M. Arlinghaus
Commissioner

cma/dph

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Subcontractor list.
- D. Proposed products list.
- E. Product data.
- F. Shop drawings.
- G. Samples.
- H. Design data.
- I. Test reports.
- J. Certificates.
- K. Manufacturer's instructions.
- L. Manufacturer's field reports.
- M. Construction photographs.

1.2 SUBMITTAL PROCEDURES

- A. Contractor to provide and maintain a collaborative, secure, online software for electronic exchanging, reviewing, and archiving construction submittals, RFI's and other design and construction communications. This software is for the use of the Contract Administrator, Clerk of the Works, Owner's Representatives, Architect/Engineer and special consultants and shall allow privileges to read and write. Submittal Exchange is the preferred software supplier, or equal, as approved by the Contract Administrator.
- B. Contractor to also provide one hard-copy of all approved submittals to the Clerk of the Works.
- C. At completion of the project the Contactor shall provide two (2) digital copies on compact discs or USB drives and one (1) hard copy in the form of a three-ring binder with all information from contract document software.

- D. Transmit each submittal with Division accepted form.
- E. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- F. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- G. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents. Incomplete items or items submitted without the Contractor's signed stamp of approval thereon will be returned rejected.
- H. Schedule submittals to expedite Project Coordinate submission of related items. Deliver to:
 - RICHARDSON ENGINEERING, PLLC
 - Attn: Sara Richardson, P.E. and/or Kori Terray, P.E.
 - PO BOX 288
 - South Berwick, ME 03908
 - 207.384.1055
 - Sara@richardson-eng.com
 - Kori@richardson-eng.com

cc: below when submittals are sent directly to Architect and or Engineer.
'Timothy Smith, RA'
John O. Morton Building, Rm. 250
7 Hazen Drive, POB 483
Concord, NH 03302-0483
603.271.1643
timothy.d.smith@das.nh.gov
- I. For each submittal for review, allow 14 days excluding delivery time to and from Architect, Engineer and the Division and Contractor.
 - I. All shop drawings to be returned to Contractor from the Contract Administrator. Direct return of shop drawings from Architect or Engineer to Contractor is not permitted.
- J. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- K. Allow space on submittals for Contractor and Architect or Engineer review stamps.
- L. When revised for resubmission, identify changes made since previous submission.
- M. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- N. Submittals not requested will not be recognized or processed.

- O. Work shall not begin until submittal items have been approved and returned to General Contractor by the Contract Administrator and A/E.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules at Pre-Construction Meeting.
- B. Submit revised Progress Schedules with [each] Application for Payment.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Submit horizontal bar chart with separate line for each section of Work, identifying first work day of each week.
- F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- G. Indicate estimated percentage of completion for each item of Work at each submission.
- H. Submit separate schedule of submittal dates for shop drawings, product data, and samples, including, and dates reviewed submittals will be required from Architect or Engineer. Indicate decision dates for selection of finishes. Selection of finishes cannot occur until ALL finish items are submitted and products are approved.
- I. Revisions To Schedules:
 - 1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
 - 3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

1.4 SUBCONTRACTOR LIST

- A. Submit list, at the Pre-Construction Meeting, of subcontractors setting forth in detail the work for which they will be responsible. In addition, the General Contractor shall identify what work will be performed with the Bidder's own forces.

1.5 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalogue designation, and reference standards.

1.6 PRODUCT DATA

- A. Product Data: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Architect and Using Agency will retain. The copy for the Using Agency is separate from the copy the Contractor to provide as part of close out procedures.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 7000.

1.7 SHOP DRAWINGS

- A. Shop Drawings: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Submit number of copies Contractor requires, plus two copies Architect and Using Agency will retain. The copy for the Using Agency is separate from the copy the Contractor to provide as part of close out procedures.
- D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 7000.

1.8 SAMPLES

- A. Samples: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples For Selection as Specified in Product Sections:
 - 1. Submit to Contract Administrator for aesthetic, color, or finish selection.
 - 2. Submit samples of finishes, as specified, in colors selected, textures, and patterns for Contract Administrator and Architect/Engineer selection and State approval.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.

- E. Submit number of samples specified in individual specification sections; Contract Administrator will retain one sample and Architect or Engineer will retain one sample.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.
- G. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 7000.

1.9 DESIGN DATA

- A. Submit for Contract Administrator's and Architect or Engineer's knowledge.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

- A. Submit for Contract Administrator's and Architect or Engineer's and State's knowledge.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor, to Contract Administrator in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Contract Administrator.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to the Contract Administrator in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Contract Administrator's, and Architect and/or Engineer, and State's benefit.

- B. Submit report in duplicate within 7 days of observation to the Contract Administrator for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.14 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of construction throughout progress of Work.
- B. Each month submit photographs electronically.
- C. Photographs: Submit digital images via e-mail or on compact discs.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Prior to acceptance of approved materials on site, establish & maintain controlled environmental conditions required for proper, sequential installations. Products affected by inadequate environmental control (in storage or installed) shall be removed, disposed of and replaced in-kind with no adjustment to the contract price or work schedule.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from the Contract Administrator before proceeding.
- D. The Contractor shall notify the Contract Administrator of any discrepancies, ambiguities or obvious omissions found in the Contract Documents before proceeding with the work affected thereby. Such notification shall be made in writing requesting clarification and/or interpretation with reasonable promptness consistent with and reasonably inferable from the Contract Documents. If the Contractor fails to make such request, no excuse will thereafter be entertained for failure to carry out work in a satisfactory manner, and no monies will be paid for correcting of items.
- E. The Contractor shall give the Contract Administrator timely notice of any additional drawings, specifications or instructions required to define the work in greater detail or to permit the proper progress of the work.
- F. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- G. Where, on any of the Drawings, a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall also apply to all other portions of the work.
- H. Perform Work by persons qualified to produce required and specified quality.
- I. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- J. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from the Contract Administrator before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. Conform to reference standard by date prior to the date of receiving bids, except where specific date is established by code. The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in the Specifications.
- B. Obtain copies of standards where required by product specification sections.
- C. When specified reference standards conflict with Contract Documents, request clarification from the Contract Administrator before proceeding.
- D. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect or Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.
- E. The Contractor shall comply with all applicable Federal, State, Local laws, ordinances, regulations, and requirements to work hereunder, including building code requirements. If the Contractor ascertains at any time that any requirement of this Contract is at variance with applicable laws, ordinances, regulations or building code requirements, he/she shall notify the Contract Administrator in writing.

1.5 SAFETY

- A. The Contractor shall, at all times, safely guard the State's property and persons from injury or loss in connection with this Contract. The Contractor shall, at all times, safely guard and protect their own work and that of adjacent property from damage. All passageways, guard fences, lights, and other facilities required for protection by Federal, State or Municipal laws and regulations must be provided and maintained.
- B. Place upon the work or any part thereof, only such loads as are consistent with the safety of that portion of the work.

1.6 MOCK-UP REQUIREMENTS

- A. Tests will be performed under provisions identified in this section and identified in respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

- C. Accepted mock-ups shall be comparison standard for remaining Work.
- D. Where mock-up has been accepted by the Contract Administrator and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by the Contract Administrator.

1.7 SUPERVISION

- A. All work shall be done under the observation and inspection of the Contract Administrator and Clerk of the Works.
- B. The Contract Administrator may observe, examine and test materials and workmanship at any and all times during manufacture and/or construction, and at any and all places where such manufacture and/or construction is carried on.
- C. The Contract Administrator shall suspend work that may be subject to damage by climatic conditions.
- D. Prior to final acceptance, the Contract Administrator at any time before final acceptance of the entire work to make an examination of work already completed that was not specifically called for to receive an inspection prior to covering over, and shall require removing or tearing out same, the Contractor shall, upon request, promptly furnish all necessary facilities, labor, and materials. If such work is found to be defective in any material respect, due to the fault of the Contractor or his Subcontractors, he shall defray all expenses of such examination and of satisfactory reconstruction. If however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, shall be completed per a Time and Material Alteration Order.

1.8 TESTING AND INSPECTION SERVICES

- A. Employ and pay for services of an independent testing agency or laboratory acceptable to the State to perform specified testing.
 - 1. **Prior to start of Work, submit** testing agency, laboratory name, address, and telephone number, and names of full time registered Engineer(s), Specialist(s) and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Institute of Standards & Technology during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.
 - 3. The Contract Administrator in cooperation with the State Fire Marshal Office will notify the Contractor in writing of acceptance or non-acceptance of the submitted testing agency.
- B. The independent firm (accepted testing agency) will perform tests, inspections and other services specified in individual specification sections and as required by the Contract Administrator and Authority having jurisdiction.
 - 1. Laboratory: Authorized to operate at Project location.
 - 2. Laboratory Staff: Maintain full time registered Engineer on staff to review services.

3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Institute of Standards and Technology or accepted values of natural physical constants.
- C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by the Contract Administrator.
 - D. Reports will be submitted by independent firm to the Contract Administrator [and Contractor], in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 - E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 1. Notify the Contract Administrator and independent firm 24 hours prior to expected time for operations requiring services.
 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
 - F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
 - G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by the Contract Administrator. Payment for re-testing or re-inspection will be charged to Contractor.
 - H. Testing Agency/Laboratory Responsibilities:
 1. Test samples of mixes submitted by Contractor.
 2. Provide qualified personnel at site. Cooperate with the Contract Administrator and Contractor in performance of services.
 3. Perform specified sampling and testing of products in accordance with specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify the Contract Administrator and Contractor of observed irregularities or non-conformance of Work or products.
 6. Perform additional tests required in accordance with specification sections.
 7. Attend preconstruction meetings and progress meetings.
 - I. Testing Agency/Laboratory Reports: After each test, promptly submit two copies of report to the Contract Administrator and two to the Contractor. When requested by the Contract Administrator or Contractor, provide interpretation of test results. Include the following:
 1. Date issued.
 2. Project title and number.
 3. Name of inspector.
 4. Date and time of sampling or inspection.
 5. Identification of product and specifications section.
 6. Location in Project.
 7. Type of inspection or test.
 8. Date of test.
 9. Results of tests.

10. Conformance with Contract Documents.
 - J. Limits On Testing Agency/Laboratory Authority:
 1. Testing Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Testing Agency or laboratory may not approve or accept any portion of the Work.
 3. Testing Agency or laboratory may not assume duties of Contractor.
 4. Testing Agency or laboratory has no authority to stop the Work.
- 1.9 MANUFACTURERS' FIELD SERVICES
- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment, etc. as applicable, and to initiate instructions when necessary.
 - B. Submit qualification of observer to the Contract Administrator 10 days of Notice to Proceed; and at least 30 days in advance of required observations.
 - C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
 - D. Refer to Section 013300 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions, controlled environment, protective measures and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections. Notify the Contract Administrator and the Clerk of the Works of conditions, which prevent start of work.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

- A. Maintain specific environmental controls required in individual sections.
- B. Clean substrate surfaces prior to applying next material or substance.
- C. Seal cracks or openings of substrate prior to applying next material or substance.
- D. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Telephone service.
 - 3. Equipment.
 - 4. Temporary water service.
 - 5. Temporary sanitary facilities.

- B. Construction Facilities:
 - 1. Field offices and sheds.
 - 2. Vehicular access.
 - 3. Parking.
 - 4. Progress cleaning and waste removal.
 - 5. Project identification.

- C. Temporary Controls:
 - 1. Barriers.
 - 2. Enclosures and fencing.
 - 3. Security.
 - 4. Noise control.
 - 5. Pollution control.

- D. Removal of utilities, facilities, and controls.

- E. All work completed herein must conform to applicable state, federal requirements, and guidelines at the Contractor's expense as is necessary to complete the Work.

1.2 TEMPORARY ELECTRICITY

- A. State will pay cost of energy used. Exercise measures to conserve energy. Utilize State's existing power service.

- B. Permanent convenience receptacles may be utilized during construction.

1.3 TELEPHONE SERVICE

- A. Provide and pay for a mobile smart phone for the on-site Superintendent.

- B. The Superintendent may use a company cell phone or personal mobile phone to fulfill this requirement.

1.4 TEMPORARY WATER SERVICE

- A. State will pay cost of temporary water. Exercise measures to conserve energy. Utilize State's existing water system, extend and supplement with temporary devices as needed to maintain specified conditions for construction operations.

1.5 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.6 FIELD OFFICES AND SHEDS

- A. Do not use permanent facilities for field offices or for storage.
- B. Construction: Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors.
 - 1. Construction: Structurally sound, secure, weather tight enclosures for office and storage spaces. Maintain during progress of Work; remove when no longer needed.
 - 2. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy and storage requirements.
 - 3. Exterior Materials: Weather resistant, finished in one color acceptable to the Contract Administrator.
 - 4. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floors and bases.
 - 5. Lighting for Offices: 50 ft C (538 lx) at desk top height, exterior lighting at entrance doors.
 - 6. Fire Extinguishers: Appropriate type fire extinguisher at each office and each storage area.
 - 7. Interior Materials in Storage Sheds: As required, to provide specified conditions for storage of products.
- C. Environmental Control:
 - 1. Heating, Cooling, and Ventilating for Offices: Automatic equipment to maintain comfort conditions.
 - 2. Storage Spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; lighting for maintenance and inspection of products.
- D. Storage Areas And Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection of products to requirements of Section 016000.
- E. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.
- F. Installation:
 - 1. Install office spaces ready for occupancy prior to start of construction.
 - 2. Employee Residential Occupancy: Not allowed on State's property.

- G. Maintenance And Cleaning:
 - 1. Maintain approach walks free of mud, water, and snow.
- H. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

1.7 VEHICULAR ACCESS

- A. Revise vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow. Coordinate traffic flow changes with the Contract Administrator and Using Agency.
- B. Location as approved by the Contract Administrator and Using Agency.
- C. Maintain unimpeded access for emergency vehicles.
- D. Provide and maintain access to fire hydrants and control valves free of obstructions.

1.8 PARKING

- A. Parking areas to accommodate construction personnel: location to be determined by Contract Administrator and Using Agency.
- B. When site space is not adequate, provide additional off-site parking.
- C. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas.
- D. Use of designated areas of existing parking facilities used by construction personnel is permitted.
- E. Do not allow heavy vehicles or construction equipment in parking areas.
- F. Repair:
 - 1. Repair existing facilities damaged by use, to original condition.

1.9 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Collect and remove waste materials, debris, and rubbish from site daily and dispose off site.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.10 PROJECT IDENTIFICATION

- A. Project Identification Sign: Not required for this project.

1.11 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for State's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way and for public access to existing building.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.12 ENCLOSURES AND FENCING

- A. Construction: Contractor's option.
- B. Provide fencing to keep public out of active construction areas of operation.
- C. Provide protective enclosures over walkways and entrances to protect public from adjacent or overhead construction operations.

1.13 SECURITY

- A. Entry Control:
 - 1. Maintain log of workers and visitors, make available to State on request.
 - 2. State will control entrance of persons and vehicles related to State's operations.

1.14 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.
- B. Comply with City of Concord's noise Ordinance.

1.15 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.16 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Clean and repair damage caused by installation or use of temporary work.

- B. Restore existing [and permanent] facilities used during construction to original condition.
Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 5050

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Construction waste management plan.
 - 2. Construction waste recycling.

1.2 PLAN REQUIREMENTS

- A. Construction Waste Management Plan shall be developed with the following intent:
 - 1. Divert construction, demolition, and land clearing debris from landfill disposal.
 - 2. Redirect recyclable material back to manufacturing process.
- B. Develop and implement a Construction Waste Management plan to be reviewed by the Contract Administrator for compliance with the following
 - 1. Divert 75 % of Project generated waste from landfills.
 - 2. Alternate plan?

1.3 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Requirements for submittals.
- B. Construction Plan: Submit construction waste management plan describing methods and procedures for implementation and monitoring compliance including the following:
 - 1. Project specific analysis of the projected jobsite waste to be generated. Include materials and estimated quantities (weight/volume) of projected waste.
 - 2. Construction waste materials anticipated for recycling and adaptive reuse.
 - 3. On site sorting and site storage methods.
 - 4. Name and location of landfill(s) to be used.
 - 5. Certification from the landfill of ability to receive the types of waste to be generated and of sufficient capacity to accept the waste.
 - 6. Transportation company hauling construction waste-to-waste processing facilities.
 - 7. Recycling and adaptive reuse processing facilities and waste type each facility will accept.
- C. Submit documentation with each application for payment substantiating that the construction waste management plan goals are being achieved. Include the following information:
 - 1. Material category
 - 2. Trash: Quantity by weight deposited in landfills.

3. Salvaged, recovered and recycled material: Quantity by weight with destination for each type of material salvaged or recovered for resale, recycling, or adaptive reuse.

1.4 CLOSEOUT SUBMITTALS

- A. Section 017000 - Execution Requirements: Requirements for submittals.
- B. Waste Management final report: Prior to Completion, submit a written Waste Management Final report summarizing the types and quantities of materials recycled and disposed of under the Waste Management Plan. Include the name and location of disposal facilities. Include the following:
 1. Material category
 2. Total quantity of waste, by weight
 3. Quantity of waste salvaged, both estimated and actual, by weight
 4. Quantity of waste recycled, both estimated and actual, by weight
 5. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste. (Compare to minimum requirement of 75% by weight of waste.)

1.5 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. Construction Waste Landfill Diversion: Minimum 75 percent by weight of construction waste materials for duration of Project through resale, recycling, or adaptive reuse.
- B. Implement construction waste management plan at start of construction.
- C. Review construction waste management plan at pre-construction meeting and progress meetings.
- D. Distribute the Construction Waste Management Plan to subcontractors and others affected by Plan Requirements.
- E. Oversee plan implementation, instruct construction personnel for plan compliance, and document plan results.
- F. Manager: The Contractor shall designate on-site personnel responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.

1.6 CONSTRUCTION WASTE RECYCLING

- A. Use source separation method or co-mingling method suitable to sorting and processing method of selected recycling center.
- B. Source Separation Method: Recyclable materials separated from trash and sorted into separate bins or containers, identified by waste type, prior to transportation to recycling center.

- C. Co-Mingling Method: Recyclable materials separated from trash and placed in unsorted bins or container for sorting at recycling center.
- D. Materials recommended for recycling include:
 - 1. Packing materials including paper, cardboard, foam plastic, and sheeting.
 - 2. Recyclable plastics.
 - 3. Organic plant debris.
 - 4. Earth materials.
 - 5. Native stone and granular fill.
 - 6. Concrete and Asphalt paving.
 - 7. Wood with and without embedded nails and staples.
 - 8. Glass, clear and colored types.
 - 9. Metals.
 - 10. Gypsum products.
 - 11. Acoustical ceiling tile.
 - 12. Carpeting.
 - 13. Equipment oil.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 CONSTRUCTION WASTE COLLECTION

- A. Collect construction waste materials in containers identified for specific waste materials and arrange for transportation to recycling centers or adaptive salvage and reuse processing facilities.
- B. Maintain recycling and adaptive reuse storage and collection area in orderly arrangement with materials separated to eliminate co-mingling of materials required to be delivered separately to waste processing facility.
- C. Store construction waste materials to prevent environmental pollution, fire hazards, hazards to persons and property, and contamination of stored materials.
- D. Cover construction waste materials subject to disintegration, evaporation, settling, or runoff to prevent polluting air, water, and soil when not in use.
- E. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials. Location shall be acceptable to the Contract Administrator.

3.2 CONSTRUCTION WASTE DISPOSAL

- A. Deliver construction waste to waste processing facilities. Obtain receipt for deliveries.

- B. Dispose of construction waste, not capable of being recycled or adaptively reused, by delivery to landfill, incinerator, or other legal disposal facility. Obtain receipt for deliveries.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.
- F. Equipment electrical characteristics and components.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. All materials and equipment shall be new, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.
- D. The use of asbestos containing materials shall be prohibited.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.

- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection only with prior approval from the Contract Administrator.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with or without provision for substitutions: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed. Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Where Bidding Documents stipulate particular Products, substitution requests will ONLY be considered before receipt of Bids. Submit requests per the requirements specified in this section.
 - 1. All requests shall be submitted to the Contract Administrator not later than eight (8) working days before the hour and day set for bid opening. Incomplete requests or requests received after this deadline will not be considered.
 - 2. All requests that are approved and are acceptable to the Department will be issued as part of an Addendum to each Bidder who has received a set of bidding documents, so that all Bidders may avail themselves of the change in submitting their Proposals.
- B. Substitutions may be considered after bid opening when a product becomes unavailable through no fault of the Contractor. The Contractor shall apply to the Contract Administrator, in writing, within ten (10) days of his realizing his inability to furnish the article specified, describing completely the substitution he desires to make. The Contractor shall include a dated written statement from the manufacturer outlining an explanation for the unavailability of the product. Substitutions for reasons of lead times, i.e., the time between when the Contractor orders necessary materials from the vendor

and anticipated delivery, will only be reviewed if the lead time is more than the length of the contract time. The Department may extend the contract time to accommodate the product specified. No additional costs from the Contractor will be considered due to the fact that the Contractor shall verify lead times and coordinate with contract time during the bidding phase.

- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for Substitution as for specified product.
 - 3. Will coordinate installation and make changes to other work which may be required for the work to be complete with no additional cost to the State.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Department and Architect and/or Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 - 3. The Department will notify Bidders in writing of decision to accept by issuing an addendum.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used.

END OF SECTION

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Date:

SR No:

Project:

To:

From:

CC:

Re:

Specification Section: _____ Page: ___ Paragraph: _____

PROPOSED SUBSTITUTION:

Manufacturer & Model Number:

Manufacturer Address & Phone:

Point-by-point comparative data attached (Required by A/E).

Differences between proposed solution and specified product:

Similar Installation contact:

Changes required to Contract Documents:

Savings to Owner for accepting substitution: \$

Proposed substitution changes Contract Time: Adds _____ days Deducts _____ days

The undersigned certifies that the proposed substitution:

- Is equal or superior in all respects to the specified product.
- Will furnish the same warranty or better than the specified product.
- Does not affect dimensions or functional clearances.
- Has spare parts and maintenance service available locally.
- Will have no adverse effect on other trades and will not delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may arise are to be waived.
- Provides compensation to the design team for changes in building design, engineering, and documentation.
- Coordination, installation, and changes in the work are complete in all respects.

Signed: _____ Date: _____

Firm: _____

**SUBSTITUTION REQUEST - FIRE ALARM REPLACEMENTS STATEWIDE
81248 CONTRACT C**

Project:

SR No.:

ARCHITECT'S REVIEW

The Architect has reviewed the Substitution Request in accordance with the Specifications and recommends:

- Acceptance – Make submittals in accordance with Specifications.
- Acceptance as noted – Make submittals in accordance with Specifications.
- Resubmission – Unable to evaluate due to incomplete data.
- Rejection – Use specified materials.
- Rejection – Substitution Request received too late, use specified materials.

Comments:

Architect's Signature: _____ Date: _____

OWNER'S REVIEW

Owner has reviewed Substitution Request and the Architect's recommendation and hereby:

- Accepts this substitution
- Rejects this substitution

Owner's Signature: _____ Date: _____

SECTION 01 7000

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Starting of systems.
- D. Demonstration and instructions.
- E. Testing, adjusting and balancing.
- F. Protecting installed construction.
- G. Project record documents.
- H. Operation and maintenance data.
- I. Manual for materials and finishes.
- J. Manual for equipment and systems.
- K. Spare parts and maintenance products.
- L. Product warranties and product bonds.
- M. Clean air certification.
- N. Maintenance service.
- O. Guarantee of work.

1.2 CLOSEOUT PROCEDURES

- A. Submit a signed Substantial Completion Application attesting that the Contract Documents have been reviewed, Work has been inspected, and that all Work is complete in accordance with Contract Documents and ready for Contract Administrator review. The Substantial Completion Application for use by the Contractor is attached to the end of this specification section. The Contract Administrator may modify this Agreement to accommodate any changes in Work.
 - 1. Provide submittals to the Contract Administrator as required by the Contract Documents and as required by authorities having jurisdiction.

- B. Only after completion of all Punch List items and submission of all items the Contractor shall submit a Final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- C. State will occupy the building as specified in Section 011000.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.
- D. Replace filters of operating new equipment.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 STARTING OF SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify the Contract Administrator seven days prior to start-up of each item.
- C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative and Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. **Submit a written report in accordance with Section 013300 that equipment or system has been properly installed and is functioning correctly.**

1.5 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to State's personnel prior to date of Substantial Completion.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with State's personnel in detail to explain all aspects of operation and maintenance.
- D. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment location.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- F. Required instruction time for each item of equipment and system is specified in individual sections.

1.6 TESTING, ADJUSTING AND BALANCING

- A. Contractor will appoint and employ services of independent firm to perform testing, adjusting, and balancing.
- B. Independent firm will perform services specified in Section 159500.
- C. Reports will be submitted by independent firm to the Contract Administrator indicating observations and results of tests and indicating compliance or non-compliance with requirements of Contract Documents.

1.7 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

- F. Prohibit traffic from landscaped areas.

1.8 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings (with SFMO approval stamp on cover sheet).
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by State.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish [first] [main] floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract drawings.
- G. Submit documents to the Contract Administrator at time of Substantial Completion.
- H. **In addition to the above requirements, record drawings shall also be submitted in AutoCAD (.dwg) format.**

1.9 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11-inch (A4) text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.

- C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Engineer(s), Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.
 - e. **NOTE: submit all ORIGINAL WARRANTIES AND BONDS TO THE CONTRACT ADMINISTRATOR PRIOR TO SUBSTANTIAL COMPLETION.**

1.10 MANUAL FOR MATERIALS AND FINISHES

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. The Contract Administrator will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by State, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes **15 days prior to Substantial Completion**. Draft copy be reviewed and returned after Substantial Completion, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form prior to final inspection.
- E. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom manufactured products.

- F. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- G. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.
- H. Additional Requirements: As specified in individual product specification sections.
- I. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.11 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Contract Administrator will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by State, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes 15 days prior to Substantial Completion. Draft copy be reviewed and returned after Substantial Completion, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form prior to final inspection.
- E. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- F. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- G. Include color coded wiring diagrams as installed.
- H. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.
- I. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- J. Include servicing and lubrication schedule, and list of lubricants required.
- K. Include manufacturer's printed operation and maintenance instructions.

- L. Include sequence of operation by controls manufacturer.
- M. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- N. Include control diagrams by controls manufacturer as installed.
- O. Include Contractor's coordination drawings, with color coded piping diagrams as installed.
- P. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- Q. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- R. Include test and balancing reports as specified in Section 01400.
- S. Additional Requirements: As specified in individual product specification sections.
- T. Include listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

1.12 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to place in location as directed by State WITH an itemized transmittal; obtain receipt and signature. Submit signed receipt prior to final Application for Payment.

1.13 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after Substantial Completion. All warranties start dates shall be the Substantial Completion Date, if project is phased all warranties to start at the date of Substantial Completion of each phase.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.
- F. Submit prior to final Application for Payment.

- G. Time of Submittals:
 - 1. For equipment or component parts of equipment put into service during construction with State's permission, submit documents within ten days after acceptance.
 - 2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.14 CLEAN AIR CERTIFICATION

- A. There is no requirement for Clean Air Certification associated with this project. RSA10-B does not apply in this case as determined by DAS DPW and DHHS.

1.15 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components indicated in specification sections during warranty period.
- B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.
- D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of State.

1.16 GUARANTEE OF WORK

- A. Except as otherwise specified, all work shall be guaranteed by the Contractor against defects resulting from the use of inferior materials, equipment or workmanship for one (1) year from the Date of Substantial Completion of the work.
- B. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Contract Administrator, is rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract shall, promptly upon receipt of notice from the Commissioner, and at his own expense:
 - 1. Place in satisfactory condition in every particular, all such guaranteed work, correct all defects therein.
 - 2. Make good all damage to the building or site, or equipment or contents thereof, which in the opinion of the Contract Administrator, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract.
 - 3. Make good any work or material, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.

- C. In any case, wherein fulfilling the requirements of the Contract or of any guarantee, embraced in or required thereby, the Contractor disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to the Contract Administrator and guarantee such restored work to the same extent as it was guaranteed under such other contracts.
- D. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Commissioner may have the defects corrected and the Contractor and his/her Surety shall be liable for all expense incurred.
- E. All special guarantees applicable to definite parts of the work that may be stipulated in the Specifications or other papers forming a part of the Contract shall be subject to the term of this paragraph during the first year of the life of such special guarantee.
- F. Failure to adhere to guarantee terms may result in suspension or barring from the prequalification list, or, alternatively, the requirement of a Letter of Credit or other guaranty equal to a percentage of the Contract amount.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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State of New Hampshire

DEPARTMENT OF ADMINISTRATIVE SERVICES
25 Capitol Street – Room 120
Concord, New Hampshire 03301

Charles M. Arlinghaus
Commissioner
(603) 271-3201

Joseph B. Bouchard
Assistant
Commissioner
(603) 271-3204

Catherine A. Keane
Deputy Commissioner
(603) 271-2059

SUBSTANTIAL COMPLETION APPLICATION

Date:

Project Title: FIRE ALARM REPLACEMENTS MULTIPLE LOCATIONS STATEWIDE
Project Number: 81248 **Contract:** C

Instructions: The items checked below are required to be completed, operational and documented in order for the project to be declared Substantially Complete. If Substantial Completion is anticipated on a portion of the work, the sequence and portions of the project shall be identified and the selected items below will be required for each substantial completion area. The Contractor shall submit this document, with attachments, to the Contract Administrator for review to determine if the terms of Substantial Completion have been met. If the terms have been met, the Contract Administrator will issue a Certificate of Substantial Completion. If the terms have not been met, the Contract Administrator will notify the Contractor of missing, incomplete, or incorrect items.

PART 1 STATE AND LOCAL REQUIREMENTS:

In addition to the requirements of the Construction Documents, Substantial Completion requires the following identified items be fully completed, executed, approved with certifications attached to this document. The Contractor is required to arrange and pay for all inspections and fees.

1.1 State of NH Office of the State Fire Marshal (Authority Having Jurisdiction):

- A. Building Permit(s)
- B. Certificate of Occupancy
- C. Modular Building Certificate
- D. Sprinkler System NFPA13 – Material and Test Certificate (Above Ground Piping Form)
- E. Fire detection and notification system. NFPA 72 (inspection and testing form)
- F. Range hood fire suppression system inspection certificate
- G. Emergency lighting and exit sign inspection
- H. Oil fired equipment inspection.
- I. Qualifications for Testing Agency – Written Approval
- J. Final report of Testing Agent documenting required inspections and tests; and documenting correction of any discrepancies noted in the inspections or tests.
- K. Other (list):

1.2 State of NH Department of Labor Division of Boilers and Elevators:

- A. Elevator Inspection Certificate.
- B. Boiler Inspection Certificate.
- C. Pressure Vessel Certificate.

1.3 State of NH Office of the State Fire Marshal and Plumber's Licensing Board:

- A. Copies of all Plumbing Inspections and final sign off.

1.4 State of NH Office of the State Fire Marshal and Electrician's Board:

- A. Copies of all Electrical Inspections and final sign off.

1.5 State of NH Department of Environmental Services and Office of the State Fire Marshal:

- A. Approved Underground/Above Ground Tank Approved Registration Form.
- B. Approved Underground/Above Ground Storage Tank Closure Notification Form.
- C. Septic System Operation Approval.
- D. Water System Operation Approval.
- E. Proof of compliance with RSA Title I, 10-B Clean Indoor Air in State Buildings.
- F. Other (list):

1.6 Other (list):

- A. Other (list):

PART 2 CONTRACTOR'S REQUIREMENTS

In addition to the requirements of the Construction Documents, Substantial Completion requires the following identified items be fully completed, executed, approved with certifications attached to this document. The Contractor is required to arrange and pay for all inspections and fees.

2.1 Contractor has completed and verified the following:

- A. Building egress and exit paths are clear of construction materials and equipment.
- B. All building systems are functional and correctly operating.
- C. Other (list):

2.2 Contractor has furnished the required Documents, Training and Manuals:

- A. Field Record Drawings including marking of all field and contract modifications.
- B. As-Built Drawings in the format required by the Contract.
- C. Building systems operations and maintenance manuals (O&M manuals).
- D. Spare parts and extra materials stocks as per specifications, with signed transmittal.
- E. Final Punch List per Section 000708 (*Failure to include incomplete Work does not relieve the Contractor of the responsibility to complete or correct the Work*)
- F. Hazardous Waste Shipment Records (WSR).
- G. Hazardous Material Abatement/Remediation Report.

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SECTION 07 8413

PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Penetration firestopping systems for the following applications:

- a. Penetrations in fire-resistance-rated walls.
 - b. Penetrations in horizontal assemblies.
 - c. Penetrations in smoke barriers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

- A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FM Approval according to FM Approval 4991, "Approval Standard for Firestop Contractors," or been evaluated by UL and

found to comply with its "Qualified Firestop Contractor Program Requirements." Or manufacturer certification including Hilti Firestop installer training.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install penetration firestopping system when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping materials per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.8 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be installed according to specified firestopping system design.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:
 - 1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
 - 2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."
 - 2) Intertek Group in its "Directory of Listed Building Products."
 - 3) FM Approval in its "Approval Guide."

2.2 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

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. 3M, Inc.
 - b. Hilti, Inc.
 - c. Or equal.

 - B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).
 1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

 - C. Penetrations in Horizontal Assemblies: Penetration firestopping systems with ratings determined per ASTM E814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).
 1. F-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated.
 2. T-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.
 3. W-Rating: Provide penetration firestopping systems showing no evidence of water leakage when tested according to UL 1479.

 - D. Penetrations in Smoke Barriers: Penetration firestopping systems with ratings determined per UL 1479, based on testing at a positive pressure differential of 0.30-inch wg (74.7 Pa).
 1. L-Rating: Not exceeding 5.0 cfm/sq. ft. (0.025 cu. m/s per sq. m) of penetration opening at and no more than 50-cfm (0.024-cu. m/s) cumulative total for any 100 sq. ft. (9.3 sq. m) at both ambient and elevated temperatures.

 - E. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.
 1. Permanent forming/damming/backing materials.
 2. Substrate primers.
 3. Collars.
 4. Steel sleeves.
- 2.3 FILL MATERIALS
- A. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.

 - B. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

- C. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.
- D. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.
- E. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.
- F. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- G. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- H. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.

2.4 MIXING

- A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings immediately to comply with manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping materials.
 - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.

3. Remove laitance and form-release agents from concrete.

B. Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

A. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.

B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.

1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.

C. Install fill materials by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.

2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.

3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

A. Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS," using lettering not less than 3 inches (76 mm) high and with minimum 0.375-inch (9.5-mm) strokes.

1. Locate in accessible concealed floor, floor-ceiling, or attic space at 15 feet (4.57 m) from end of wall and at intervals not exceeding 30 feet (9.14 m).

B. Penetration Identification: Identify each penetration firestopping system with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of penetration firestopping system edge so labels are visible to anyone seeking to remove penetrating items or firestopping systems. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."

2. Contractor's name, address, and phone number.

3. Designation of applicable testing and inspecting agency.

4. Date of installation.

5. Manufacturer's name.

6. Installer's name.

3.5 FIELD QUALITY CONTROL

- A. Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E2174.
- B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.
- C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

END OF SECTION

SECTION 26 0500

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section. This section applies to all sections of Division 26 of this project specification unless specified otherwise in the individual sections.

1.2 SUMMARY

A. Section Includes:

1. Copper building wire rated 600 V or less.
2. Metal-clad cable, Type MC, rated 600V or less.
3. Connectors, splices, and terminations rated 600 V and less.
4. Metal conduits and fittings.
5. Nonmetallic conduits and fittings.
6. Metal wireways and auxiliary gutters.
7. Boxes, enclosures, and cabinets.
8. Hangers and supports, mounting, anchoring, and attached components.
9. Grounding and bonding systems and equipment.
10. Identification labels, signs, nameplates, and cable ties.

1.3 DEFINITIONS

- A. Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE 100.
- B. GRC: Galvanized rigid steel conduit.
- C. RNC: Rigid non-metallic conduit.
- D. EMT: Electric metallic tubing.
- E. FMC: Flexible metallic conduit.
- F. LFMC: Liquidtight flexible metallic conduit.
- G. AFF: Above finished floor.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: Indicate type, use, location, and termination locations.
- C. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer's authorized service representative.
- B. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: ISO 9001 or 9002 certified.
- B. Regulatory Requirements: In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70 unless more stringent requirements are specified or indicated.
- C. Standard Products: Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design, and workmanship. Products shall have been in satisfactory commercial or industrial use for two (2) years prior to bid opening. The two (2) year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the two (2) year period. Where two or more items of a single class of equipment are required, these items shall be of a single manufacturer.
- D. Alternative Qualifications: Products having less than a two (2) year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6,000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished.
- E. Material and Equipment Manufacturing Date: Products manufactured more than three (3) years prior to date of delivery to the site shall not be used.

1.7 WARRANTY

- A. The equipment items shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. 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. Encore Wire Corporation.
2. General Cable Technologies Corporation.
3. Okonite Company (The).
4. Southwire Company.
5. Or equal.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

E. Conductor Insulation:

1. Type THHN and Type THWN-2: Comply with UL 83.

2.2 METAL-CLAD CABLE, TYPE MC

A. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath.

- B. 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. Encore Wire Corporation.
2. AFC Cable Systems.
3. Cerrowire.
4. Southwire Company.
5. Or equal.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Comply with UL 1569.
3. RoHS compliant.
4. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Circuits:

1. Single circuit.
2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.

E. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

F. Ground Conductor: Insulated.

G. Conductor Insulation:

1. Type TFN/THHN/THWN-2: Comply with UL 83.

H. Armor: Aluminum or steel, interlocked, with red finish.

2.3 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. 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. 3M Electrical Products.
2. AFC Cable Systems; a part of Atkore International.
3. Ideal Industries, Inc.
4. ILSCO.
5. O-Z/Gedney; a brand of Emerson Industrial Automation.
6. Thomas & Betts Corporation; A Member of the ABB Group.
7. Or equal.

C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper or Aluminum, rated for use with the conductor material being terminated.
2. Type: Two hole with long barrels.
3. Termination: Compression.

2.4 METAL CONDUITS AND FITTINGS

A. Metal Conduit:

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. AFC Cable Systems; a part of Atkore International.
 - b. Allied Tube & Conduit; a part of Atkore International.
 - c. Calconduit.
 - d. Western Tube and Conduit Corporation.
 - e. Wheatland Tube Company.
 - f. Or equal.
2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. GRC: Comply with ANSI C80.1 and UL 6.
4. EMT: Comply with ANSI C80.3 and UL 797.

B. Metal Fittings:

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. AFC Cable Systems; a part of Atkore International.
 - b. Allied Tube & Conduit; a part of Atkore International.
 - c. Calconduit.
 - d. O-Z/Gedney; a brand of Emerson Industrial Automation.
 - e. Thomas & Betts Corporation; A Member of the ABB Group.
 - f. Or equal.
2. Comply with NEMA FB 1 and UL 514B.
3. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Fittings, General: Listed and labeled for type of conduit, location, and use.
5. Conduit Bodies for GRC:
 - a. Conduit bodies shall be constructed of an electro-galvanized malleable iron alloy which is coated with an acrylic paint finish. Conduit bodies shall have integral threaded conduit hubs.
 - b. Conduit bodies for all areas shall be provided with covers that are affixed in place by stainless steel screws which thread directly into the conduit body. Covers that utilize wedge nuts or any other method of attachment to the conduit body are not acceptable. Covers shall be constructed of an electro-galvanized malleable iron alloy which is coated with an acrylic paint finish. Covers shall be provided with matching gasket.

- 6. Fittings for EMT:
 - a. Material: Steel.
 - b. Type: Compression.
- C. Joint Compound for GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.5 METAL WIREWAYS AND AUXILIARY GUTTERS

- 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. B-line, an Eaton business.
 - 2. Hoffman; a brand of nVent.
 - 3. Or equal.
- B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 unless otherwise indicated, and sized according to NFPA 70.
 - 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Screw-cover type unless otherwise indicated.
- E. Fittings and Accessories: Dividers and other fittings shall match and mate with the wireway provided.
- F. Finish: Manufacturer's standard enamel finish.

2.6 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. Crouse-Hinds, an Eaton business.
 - 2. EGS/Appleton Electric.
 - 3. O-Z/Gedney; a brand of Emerson Industrial Automation.
 - 4. RACO; Hubbell.
 - 5. Or equal.
- 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. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- E. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- F. 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) minimum.
- G. Gangable boxes are prohibited.
- H. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 12 with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Nonmetallic Enclosures: Plastic or fiberglass as indicated.
 - 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

2.7 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch- (10-mm-) diameter holes at a maximum of 8 inches (200 mm) o.c. in at least one surface.
 - 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. CADDY; a brand of nVent.
 - b. Flex-Strut Inc.
 - c. Unistrut; Part of Atkore International.
 - d. Or equal.
 - 2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
 - 3. Material for Channel, Fittings, and Accessories: Galvanized steel.
 - 4. Channel Width: 1-5/8 inches (41.25 mm).
 - 5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - 6. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - 7. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
 - 8. Provide PVC end caps to the ends of all exposed channel for protection of personnel.
- B. Conduit and Cable Support Devices: Steel and malleable-iron or stainless-steel, as indicated, hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated or stainless steel, as indicated, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - 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) Hilti, Inc.
 - 2) ITW Ramset/Red Head; Illinois Tool Works, Inc.
 - 3) Or equal.
2. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
3. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM F3125/F3125M, Grade A325 (Grade A325M).
5. Toggle Bolts: All-steel or stainless-steel springhead type, as indicated.
6. Hanger Rods: Threaded steel.

2.8 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1 and IEEE C2.
- 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.

2.9 IDENTIFICATION COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 600 V or Less:
 1. Black letters on an orange field.
 2. Legend: Indicate voltage and system or service type.
- B. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded service, feeder, and branch-circuit conductors.
 1. Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit.
 2. Colors for 208/120-V Circuits:

- a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue
3. Color for Neutral: White.
 4. Color for Equipment Grounds: Green.
- C. Equipment Identification Labels:
1. Black letters on a white field.

2.10 LABELS

- A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.
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. Brady Corporation.
 - b. Panduit Corp.
 - c. Or equal.
- B. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters and that stay in place by gripping action.
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. Brady Corporation.
 - b. Panduit Corp.
 - c. Or equal.
- C. Self-Adhesive Labels: Vinyl, thermal, transfer-printed, 3-mil- (0.08-mm-) thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
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. Brady Corporation.
 - b. Brother International Corporation.
 - c. Panduit Corp.
 - d. Or equal.
 2. Minimum Nominal Size:

- a. 1-1/2 by 6 inches (37 by 150 mm) for raceway and conductors.
- b. 3-1/2 by 5 inches (76 by 127 mm) for equipment.
- c. As required by authorities having jurisdiction.

2.11 BANDS AND TUBES

- A. Snap-around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches (50 mm) long, with diameters sized to suit diameters and that stay in place by gripping action.
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. Brady Corporation.
 - b. Or equal.

2.12 SIGNS AND NAMEPLATES

A. Baked-Enamel Signs and Nameplates:

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. Carlton Industries, LP.
 - b. Or equal.
2. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
3. 1/4-inch (6.4-mm) grommets in corners for mounting.
4. Nominal Size: 7 by 10 inches (180 by 250 mm).

B. Laminated Acrylic Signs and Nameplates:

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. Brady Corporation.
 - b. Or equal.
2. Engraved legend.
3. Thickness:
 - a. For signs up to 20 sq. in. (129 sq. cm), minimum 1/16 inch (1.6 mm) thick.
 - b. For signs larger than 20 sq. in. (129 sq. cm), 1/8 inch (3.2 mm) thick.
 - c. Engraved legend with black letters on white face.

- d. Punched or drilled for mechanical fasteners with 1/4-inch (6.4-mm) grommets in corners for mounting.
- e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.13 CABLE TIES

- 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. Ideal Industries, Inc.
 - 2. Or equal.
- B. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and 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.

2.14 FACTORY APPLIED FINISH

- A. Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA 250 corrosion-resistance test.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway.
- B. Feeders Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway, or Metal-clad cable, Type MC.
- C. Exposed Branch Circuits: Type THHN/THWN-2, single conductors in raceway.

- D. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway, or Metal-clad cable, 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 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.

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.

3.5 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: GRC.
 - 2. Concealed Conduit, Aboveground: GRC.
 - 3. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed, Not Subject to Physical Damage: EMT.
 - 2. Exposed, Not Subject to Severe Physical Damage: EMT.
 - 3. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 - 4. Damp or Wet Locations: GRC.
 - 5. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
 - 2. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
 - 3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Install surface raceways only where indicated on Drawings.
- F. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F (49 deg C).

3.6 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 and GRC may be supported by openings through structure members, according to 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. To Steel: Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
 - 5. To Light Steel: Sheet metal screws.
 - 6. 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 the need for reinforcing bars.

3.7 EQUIPMENT GROUNDING

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.

- B. Grounding Conductors: Green-colored insulation with continuous yellow stripe.
- C. Conductor Terminations and Connections:
 - 1. Equipment Grounding Conductor Terminations: Bolted connectors.
 - 2. Connections to Structural Steel: Welded connectors.
- D. Install insulated equipment grounding conductors with all feeders and branch circuits.
- E. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.

3.8 INSTALLATION

- A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:
 - 1. NECA 1.
 - 2. NECA 101
 - 3. NECA 111.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT and GRC as required by 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 20 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with two-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.
- E. Do not install raceways or electrical items on any "explosion-relief" walls or rotating equipment.
- F. Do not fasten conduits onto the bottom side of a metal deck roof.
- G. Keep raceways at least 6 inches (150 mm) away from parallel runs of. Install horizontal raceway runs above water piping.
- H. Complete raceway installation before starting conductor installation.

- I. 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.
- J. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.
- K. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- L. Support conduit within 12 inches (300 mm) of enclosures to which attached.
- M. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- N. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- O. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- P. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- Q. 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.
- R. 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.
- S. 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.
- T. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments.
 - 1. Seal the interior of all raceways at the following points:
 - a. Where conduits pass from warm to cold locations.
 - b. Conduit extending from interior to exterior of building.
 - c. Where otherwise required by NFPA 70.

- U. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 36 inches (915 mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 - 1. Use LFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- V. 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.
- W. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- X. Locate boxes so that cover or plate will not span different building finishes.
- Y. 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.
- Z. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- AA. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- BB. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
- CC. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.
 - 1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
 - 2. Make connections with clean, bare metal at points of contact.
 - 3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
 - 4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
 - 5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.9 IDENTIFICATION

- A. Identify each spare conductor at each end with identity number and location of other end of conductor and identify as spare conductor.

3.10 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.11 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

3.12 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 - 2. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - c. Inspect compression-applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
- B. Cables will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports to record the following:
 - 1. Procedures used.
 - 2. Results that comply with requirements.

3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

3.13 FIELD APPLIED PAINTING

- A. Paint electrical equipment as required to match finish of adjacent surfaces or to meet the indicated or specified safety criteria. Painting shall be as specified in Section 09900 Painting.
- B. 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).
 2. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A780.

END OF SECTION

SECTION 26 0523

CONTROL-VOLTAGE ELECTRICAL POWER CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Fire Alarm Wire and Cable.
 - 2. Identification products.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control and signaling power-limited circuits.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.5 INFORMATIONAL SUBMITTALS

- A. Source quality-control reports.
- B. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Accredited by NETA.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- 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. Flame Travel and Smoke Density for Riser Cables in Non-Plenum Building Spaces: As determined by testing identical products according to UL 1666.
- C. Flame Travel and Smoke Density for Cables in Non-Riser Applications and Non-Plenum Building Spaces: As determined by testing identical products according to UL 1685.
- D. RoHS compliant.

2.2 FIRE-ALARM WIRE AND CABLE

- 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. Encore Wire Corporation.
 - 2. Service Wire Co.
 - 3. Or equal.
- B. General Wire and Cable Requirements: NRTL listed and labeled as complying with NFPA 70, Article 760.
- C. Signaling Line Circuits: Twisted, shielded pair, not less than No. 16 AWG or size as recommended by system manufacturer.
 - 1. Circuit Integrity Cable: Twisted shielded pair, NFPA 70, Article 760, Classification CI, for power-limited fire-alarm signal service Type FPL. NRTL listed and labeled as complying with UL 1424 and UL 2196 for a two-hour rating.
- D. Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation, and complying with requirements in UL 2196 for a two-hour rating.
 - 1. Low-Voltage Circuits: No. 16 AWG, minimum, in pathway.
 - 2. Line-Voltage Circuits: No. 12 AWG, minimum, in pathway.
 - 3. Multiconductor Armored Cable: NFPA 70, Type MC, copper conductors, Type TFN/THHN conductor insulation, copper drain wire, copper armor with red identifier stripe, NRTL listed for fire-alarm and cable tray installation, plenum rated.

2.3 SOURCE QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate cables.

- B. Factory test twisted pair cables according to TIA-568-C.2.
- C. Cable will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Test cables on receipt at Project site.
 - 1. Test each pair of twisted pair cable for open and short circuits.

3.2 INSTALLATION OF RACEWAYS AND BOXES

- A. Comply with requirements in Section 260500 "Basic Electrical Materials and Methods" for raceway selection and installation requirements for boxes, conduits, and wireways as supplemented or modified in this Section.
- B. Comply with TIA-569-D for pull-box sizing and length of conduit and number of bends between pull points.
- C. Install manufactured conduit sweeps and long-radius elbows if possible.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Comply with NECA 1.
- B. General Requirements for Cabling:
 - 1. Comply with TIA-568-C Series of standards.
 - 2. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, and cross-connect and patch panels.
 - 3. Cables may not be spliced and shall be continuous from terminal to terminal, unless otherwise noted. Do not splice cable between termination, tap, or junction points.
 - 4. Cables serving a common system may be grouped in a common raceway. Install network cabling and control wiring and cable in separate raceway from power wiring. Do not group conductors from different systems or different voltages.
 - 5. 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.
 - 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 ITSIMM, Ch. 5, "Copper Structured Cabling Systems." Install lacing bars and distribution spools.

7. Do not install bruised, kinked, scored, deformed, or abraded cable. Remove and discard cable if damaged during installation and replace it with new cable.
8. Cold-Weather Installation: Bring cable to room temperature before dereeling. Do not use heat lamps for heating.
9. Pulling Cable: Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems." Monitor cable pull tensions.
10. Support: Do not allow cables to lie on removable ceiling tiles.
11. Secure: Fasten securely in place with hardware specifically designed and installed so as to not damage cables.
12. Provide strain relief.
13. Keep runs short. Allow extra length for connecting to terminals. Do not bend cables in a radius less than 10 times the cable OD. Use sleeves or grommets to protect cables from vibration at points where they pass around sharp corners and through penetrations.
14. Ground wire shall be copper, and grounding methods shall comply with IEEE C2. Demonstrate ground resistance.

C. Balanced Twisted Pair Cable Installation:

1. Comply with TIA-568-C.2.
2. Do not untwist balanced twisted pair cables more than 1/2 inch (12mm) at the point of termination to maintain cable geometry.

CI. Separation from EMI Sources:

1. Comply with BICSI TDMM and TIA-569-D recommendations for separating unshielded copper voice and data communications 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 or Circuit Rating Less Than 2 kVA: A minimum of 5 inches (127 mm).
 - b. Electrical Equipment or Circuit Rating between 2 and 5 kVA: A minimum of 12 inches (305 mm).
 - c. Electrical Equipment or Circuit Rating More Than 5 kVA: A minimum of 24 inches (600 mm).
3. Separation between communications cables in grounded metallic raceways and unshielded power lines or electrical equipment shall be as follows:
 - a. Electrical Equipment or Circuit Rating Less Than 2 kVA: A minimum of 2-1/2 inches (64 mm).
 - b. Electrical Equipment or Circuit Rating between 2 and 5 kVA: A minimum of 6 inches (150 mm).
 - c. Electrical Equipment or Circuit Rating More Than 5 kVA: A minimum of 12 inches (305 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 or Circuit Rating Less Than 2 kVA: No requirement.
 - b. Electrical Equipment or Circuit Rating between 2 and 5 kVA: A minimum of 3 inches (75 mm).
 - c. Electrical Equipment or Circuit 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 5 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 REMOVAL OF CONDUCTORS AND CABLES

- A. Remove abandoned conductors and cables. Abandoned conductors and cables are those installed that are not terminated at equipment and are not identified with a tag for future use.

3.5 CONTROL-CIRCUIT CONDUCTORS

- A. Minimum Conductor Sizes:
 1. Class 1 remote-control and signal circuits; No 14 AWG.
 2. Class 2 low-energy, remote-control, and signal circuits; No. 16 AWG.
 3. Class 3 low-energy, remote-control, alarm, and signal circuits; No 12 AWG.

3.6 FIRESTOPPING

- A. Comply with TIA-569-D, Annex A, "Firestopping."
- B. Comply with BICSI TDMM, "Firestopping" Chapter.

3.7 GROUNDING

- A. For data communication wiring, comply with TIA-607-B and with BICSI TDMM, "Bonding and Grounding (Earthing)" Chapter.
- B. For low-voltage control wiring and cabling, comply with requirements in Section 26 0500 "Basic Electrical Materials and Methods."

3.8 IDENTIFICATION

- A. Comply with requirements for identification specified in Section 260500 "Basic Electrical Materials and Methods."
- B. Identify data and communications system components, wiring, and cabling according to TIA-606-B; label printers shall use label stocks, laminating adhesives, and inks complying with UL 969.
- C. Identify each wire on each end and at each terminal with a number-coded identification tag. Each wire shall have a unique tag.

3.9 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Tests and Inspections:
 - 1. Visually inspect cable jacket materials for UL or third-party certification markings. Inspect cabling terminations to confirm color-coding for pin assignments, and inspect cabling connections to confirm compliance with TIA-568-C.1.
 - 2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
 - 3. Test cabling for direct-current loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination, but not after cross-connection.
 - a. Test instruments shall meet or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in its "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in its "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
- C. Document data for each measurement. Print data for submittals in a summary report that is formatted using Table 10.1 in BICSI TDMM as a guide, or transfer the data from the instrument to the computer, save as text files, print, and submit.
- D. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

END OF SECTION

SECTION 28 4621.11

FIRE-ALARM SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Fire-alarm control unit.
2. Manual fire-alarm boxes.
3. System smoke detectors.
4. Heat detectors.
5. Carbon monoxide detectors.
6. Notification appliances.
7. Device guards.
8. Remote annunciator.
9. Addressable interface device.

B. Related Requirements:

1. Section 26 0523 "Control-Voltage Electrical Power Cables" for cables and conductors for fire-alarm systems.
2. Division 26 specifications.

1.3 DEFINITIONS

- A. EMT: Electrical Metallic Tubing.
- B. FACP: Fire Alarm Control Panel.
- C. HLI: High Level Interface.
- D. NICET: National Institute for Certification in Engineering Technologies.
- E. PC: Personal computer.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product, including furnished options and accessories to be provided.

1. Include construction details, material descriptions, dimensions, profiles, and finishes.
2. Include rated capacities, operating characteristics, and electrical characteristics.

B. Shop Drawings: For new and existing fire-alarm systems.

1. Comply with recommendations and requirements in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
2. Include plans, elevations, sections, details, and attachments to other work.
3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
4. Detail assembly and support requirements.
5. Include voltage drop calculations for all new and modified notification-appliance circuits.
6. Include battery-size calculations for all new and modified standby battery systems.
7. Include input/output matrix.
8. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.
9. Include performance parameters and installation details for each detector.
10. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
11. Include locations of heating, ventilating, and air-conditioning ducts within plans; coordinate location of duct smoke detectors and access to them.
 - a. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
 - b. Show field wiring required for HVAC unit shutdown on alarm.
 - c. Show field wiring and equipment required for HVAC unit shutdown on alarm and override by firefighters' control system.
 - d. Locate detectors according to manufacturer's written recommendations.

C. General Submittal Requirements:

1. Submittals shall be approved by authorities having jurisdiction prior to submitting them to Engineer.
2. Shop Drawings shall be prepared by persons with the following qualifications:
 - a. Trained and certified by manufacturer in fire-alarm system design.
 - b. NICET-certified, fire-alarm technician; Level III minimum.
 - c. Licensed or certified by authorities having jurisdiction.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

- B. Field quality-control reports.

- 1.6 Sample Warranty: For special warranty on system and individual components.

- 1.7 CLOSEOUT SUBMITTALS
 - A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.
 - 1. In addition to items specified in Division 1 include the following and deliver copies to authorities having jurisdiction:
 - a. Comply with the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - b. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - c. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
 - d. Riser diagram.
 - e. Device addresses.
 - f. Record copy of site-specific software.
 - g. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:
 - 1) Equipment tested.
 - 2) Frequency of testing of installed components.
 - 3) Frequency of inspection of installed components.
 - 4) Requirements and recommendations related to results of maintenance.
 - 5) Manufacturer's user training manuals.
 - h. Manufacturer's required maintenance related to system warranty requirements.
 - i. Abbreviated operating instructions for mounting at fire-alarm control unit and each annunciator unit.
 - j. Warranty.
 - 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, where applicable.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Provide the following for each site:
 - 1. Smoke Detectors, Heat Detectors, and Carbon Monoxide Detectors: Quantity equal to 10 percent of amount of each type installed, but no fewer than one unit of each type.
 - 2. Detector Bases: Quantity equal to two percent of amount of each type installed, but no fewer than one unit of each type.
 - 3. Keys and Tools: One extra set for access to locked or tamper proofed components.
 - 4. Audible and Visual Notification Appliances: One of each type installed.
 - 5. Fuses: Two of each type installed in the system.

1.9 QUALITY ASSURANCE

- A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this Project.
- B. Installer Qualifications: Installation shall be by personnel certified by NICET as fire-alarm Level III technician.

1.10 PROJECT CONDITIONS

- A. Perform a full test of the existing system prior to starting work. Document any equipment or components not functioning as designed.
- B. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:
 - 1. Notify Owner no fewer than 14 days in advance of proposed interruption of fire-alarm service.
 - 2. Do not proceed with interruption of fire-alarm service without Owner's written permission.
- C. Use of Devices during Construction: Protect devices during construction unless devices are placed in service to protect the facility during construction.

1.11 SEQUENCING AND SCHEDULING

- A. Existing Fire-Alarm Equipment: Where able maintain existing equipment fully operational until new equipment is ready to be tested and accepted. As new devices are installed, label them "NOT IN SERVICE" until accepted. Remove labels from new equipment when put into service, and label existing fire-alarm equipment "NOT IN SERVICE" until removed from the building.
- B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring not to be reused.

1.12 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Extent: All equipment and components not covered in the Maintenance Service Agreement.
 - 2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Source Limitations for Fire-Alarm System and Components: Components shall be compatible with, and operate as an extension of, existing system where indicated on drawings. Provide system manufacturer's certification that all components provided have been tested as, and will operate as, a system.
- B. Noncoded, UL-certified or FM Global placarded addressable system, with multiplexed signal transmission and voice or horn/strobe evacuation. Refer to drawings for device types required.
- C. Automatic sensitivity control of certain smoke detectors.
- D. All components provided shall be listed for use with the selected system.
- E. 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.

2.2 SYSTEMS OPERATIONAL DESCRIPTION

- A. Fire-alarm signal initiation shall be by one or more of the following devices and systems:
 - 1. Manual stations.
 - 2. Heat detectors.
 - 3. Smoke detectors.
 - 4. Duct smoke detectors.
 - 5. Carbon monoxide detectors.
 - 6. Automatic sprinkler system water flow.
 - 7. Preaction system.
 - 8. Fire-extinguishing system operation.
 - 9. Fire standpipe system.
 - 10. Dry system pressure flow switch.
- B. Fire-alarm signal shall initiate the following actions:
 - 1. Continuously operate alarm notification appliances, including voice evacuation notices where provided.

2. Identify alarm and specific initiating device at fire-alarm control unit, and remote annunciators.
3. Transmit an alarm signal to the remote alarm receiving station where required.
4. Activate voice/alarm communication system.
5. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
6. Activate preaction system.
7. Recall elevators to primary or alternate recall floors.
8. Activate elevator power shunt trip.
9. Activate emergency lighting control.
10. Record events in the system memory.
11. Indicate device in alarm on the graphic annunciator.

C. Supervisory signal initiation shall be by one or more of the following devices and actions:

1. Valve supervisory switch.
2. High- or low-air-pressure switch of a dry-pipe or preaction sprinkler system.
3. Elevator shunt-trip supervision.
4. Independent fire-detection and -suppression systems.
5. User disabling of zones or individual devices.
6. Loss of communication with any panel on the network.

D. System trouble signal initiation shall be by one or more of the following devices and actions:

1. Open circuits, shorts, and grounds in designated circuits.
2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
3. Loss of communication with any addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
4. Loss of primary power at fire-alarm control unit.
5. Ground or a single break in internal circuits of fire-alarm control unit.
6. Abnormal ac voltage at fire-alarm control unit.
7. Break in standby battery circuitry.
8. Failure of battery charging.
9. Abnormal position of any switch at fire-alarm control unit or annunciator.
10. Voice signal amplifier failure.

E. System Supervisory Signal Actions:

1. Initiate notification appliances.
2. Identify specific device initiating the event at fire-alarm control unit, and remote annunciators.
3. After a time delay of 200 seconds, transmit a trouble or supervisory signal to the remote alarm receiving station.
4. Transmit system status to building management system.
5. Display system status on graphic annunciator.

2.3 FIRE-ALARM CONTROL UNIT

A. General Requirements for Fire-Alarm Control Unit:

1. Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, complying with UL 864.
 - a. System software and programs shall be held in nonvolatile flash, electrically erasable, programmable, read-only memory, retaining the information through failure of primary and secondary power supplies.
 - b. Include a real-time clock for time annotation of events on the event recorder and printer.
 - c. Provide communication between the FACP and remote circuit interface panels, annunciators, and displays.
 - d. Provide nonvolatile memory for system database, logic, and operating system and event history. The system shall require no manual input to initialize in the event of a complete power down condition. The FACP shall provide a minimum 500-event history log.
 2. Addressable Initiation Device Circuits: The FACP shall indicate which communication zones have been silenced and shall provide selective silencing of alarm notification appliance by building communication zone.
 3. Addressable Control Circuits for Operation of Notification Appliances and Mechanical Equipment: The FACP shall be listed for releasing service.
- B. Alphanumeric Display and System Controls: Arranged for interface between human operator at fire-alarm control unit and addressable system components including annunciation and supervision. Display alarm, supervisory, and component status messages and the programming and control menu.
1. Annunciator and Display: Liquid-crystal type, three line(s) of 80 characters, minimum.
 2. Keypad: Arranged to permit entry and execution of programming, display, and control commands.
- C. Initiating-Device, Notification-Appliance, and Signaling-Line Circuits:
1. Pathway Class Designations: NFPA 72, As indicated on drawings.
 2. Install no more than 50 addressable devices on each signaling-line circuit.
 3. Serial Interfaces:
 - a. One RS 485 port for remote annunciators, Ethernet module, or multi-interface module (printer port).
 - b. One USB port for PC configuration.
- D. Notification-Appliance Circuit:
1. Audible appliances shall sound in a three-pulse temporal pattern, as defined in NFPA 72.
 2. Visual alarm appliances shall flash in synchronization where multiple appliances are in the same field of view, as defined in NFPA 72.
- E. Elevator Recall:
1. Elevator recall shall be initiated only by one of the following alarm-initiating devices:
 - a. Elevator lobby detectors except the lobby detector on the designated floor.
 - b. Smoke detector in elevator machine room.

- c. Smoke detectors in elevator hoistway.
2. Elevator controller shall be programmed to move the cars to the alternate recall floor if lobby detectors located on the designated recall floors are activated.
3. Water-flow alarm connected to sprinkler in an elevator shaft and elevator machine room shall shut down elevators associated with the location without time delay.
 - a. Water-flow switch associated with the sprinkler in the elevator pit may have a delay to allow elevators to move to the designated floor.
- F. Remote Smoke-Detector Sensitivity Adjustment: Controls shall select specific addressable smoke detectors for adjustment, display their current status and sensitivity settings, and change those settings. Allow controls to be used to program repetitive, time-scheduled, and automated changes in sensitivity of specific detector groups. Record sensitivity adjustments and sensitivity-adjustment schedule changes in system memory.
- G. Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to a remote alarm station.
- H. Voice/Alarm Signaling Service: Central emergency communication system with redundant microphones, preamplifiers, amplifiers, and tone generators provided in a separate cabinet located in the fire command center or as a special module that is part of fire-alarm control unit to match existing systems.
 1. Indicate number of alarm channels for automatic, simultaneous transmission of different announcements to different zones or for manual transmission of announcements by use of the central-control microphone. Amplifiers shall comply with UL 1711.
 - a. Allow the application of, and evacuation signal to, indicated number of zones and, at the same time, allow voice paging to the other zones selectively or in any combination.
 - b. Programmable tone and message sequence selection.
 - c. Standard digitally recorded messages for "Evacuation" and "All Clear."
 - d. Generate tones to be sequenced with audio messages of type recommended by NFPA 72 and that are compatible with tone patterns of notification-appliance circuits of fire-alarm control unit.
 2. Status Annunciator: Indicate the status of various voice/alarm speaker zones and the status of firefighters' two-way telephone communication zones.
 3. Preamplifiers, amplifiers, and tone generators shall automatically transfer to backup units, on primary equipment failure.
- I. Primary Power: 24-V dc obtained from 120-V ac service and a power-supply module. Initiating devices, notification appliances, signaling lines, trouble signals, supervisory and digital alarm communicator transmitters and digital alarm radio transmitters shall be powered by 24-V dc source.
 1. Alarm current draw of entire fire-alarm system shall not exceed 80 percent of the power-supply module rating.

- J. Secondary Power: 24-V dc supply system with batteries, automatic battery charger, and automatic transfer switch.
 - 1. Batteries: Sealed lead calcium. Sized as required to power the system in a non-alarm condition for a minimum of 24 hours, followed by 5 minutes of alarm.
- K. Instructions: Computer printout or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.

2.4 PREACTION SYSTEM, WHERE EXISTING

- A. Initiate Presignal Alarm: This function shall cause an audible and visual alarm and indication to be provided at the FACP. Activation of an initiation device connected as part of a preaction system shall be annunciated at the FACP only, without activation of the general evacuation alarm.

2.5 MANUAL FIRE-ALARM BOXES

- A. General Requirements for Addressable and Conventional Manual Fire-Alarm Boxes: Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.
 - 1. Double-action mechanism requiring two actions to initiate an alarm, pull-lever type; with integral or attached addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit. Breaking-glass or plastic rod type shall not be acceptable.
 - 2. Station Reset: Key- or wrench-operated switch.
 - 3. Weatherproof Protective Shield: Factory-fabricated, clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm.

2.6 ADDRESSABLE SYSTEM SMOKE DETECTORS

- A. General Requirements for System Smoke Detectors:
 - 1. Comply with UL 268; operating at 24-V dc, nominal.
 - 2. Detectors shall be four-/3-wire type.
 - 3. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.
 - 4. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
 - 5. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.
 - 6. Remote Control: Where indicated on drawings, detectors shall be digital-addressable type, individually monitored at fire-alarm control unit for calibration, sensitivity, and alarm condition.

- a. Rate-of-rise temperature characteristic of combination smoke- and heat-detection units shall be selectable at fire-alarm control unit for 15 or 20 deg F (8 or 11 deg C) per minute.
- b. Fixed-temperature sensing characteristic of combination smoke- and heat-detection units shall be independent of rate-of-rise sensing and shall be settable at fire-alarm control unit to operate at 135 or 155 deg F (57 or 68 deg C).
- c. Multiple levels of detection sensitivity for each sensor.

B. Photoelectric Smoke Detectors:

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
 - a. Primary status.
 - b. Device type.
 - c. Present average value.
 - d. Present sensitivity selected.
 - e. Sensor range (normal, dirty, etc.).

C. Duct Smoke Detectors: Photoelectric type complying with UL 268A.

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
 - a. Primary status.
 - b. Device type.
 - c. Present average value.
 - d. Present sensitivity selected.
 - e. Sensor range (normal, dirty, etc.).
3. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector for smoke detection in HVAC system ducts.
4. Each sensor shall have multiple levels of detection sensitivity.
5. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
6. Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.

2.7 CONVENTIONAL SYSTEM SMOKE DETECTORS

A. General Requirements for System Smoke Detectors:

1. Operating at 24-V dc, nominal.
2. Detectors shall be four-wire type.

3. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
 4. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
 5. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.
 6. Provide multiple levels of detection sensitivity for each sensor.
- B. Photoelectric Smoke Detectors: Comply with UL 268.
- C. Ionization Smoke Detector: Comply with UL 268.
- D. Duct Smoke Detectors: Photoelectric type complying with UL 268A.
1. Remote indication and test station. Operating key switch initiates an alarm test.
 2. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector for smoke detection in HVAC system ducts.
 3. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
 4. Relay Fan Shutdown: Rated to interrupt fan motor-control circuit.

2.8 ADDRESSABLE AND CONVENTIONAL CARBON MONOXIDE DETECTORS

- A. General: Addressable and conventional carbon monoxide detectors listed for connection to fire-alarm system.
1. Mounting: Adapter plate for outlet box mounting.
 2. Testable by introducing test carbon monoxide into the sensing cell.
 3. Detector shall provide alarm contacts and trouble contacts.
 4. Detector shall send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
 5. Comply with UL 2075.
 6. Locate, mount, and wire according to manufacturer's written instructions.
 7. Provide means for addressable connection to fire-alarm system.
 8. Test button simulates an alarm condition.

2.9 ADDRESSABLE HEAT DETECTORS

- A. General Requirements for Heat Detectors: Comply with UL 521.
1. Temperature sensors shall test for and communicate the sensitivity range of the device.
- B. Heat Detector, Combination Type: Actuated by either a fixed temperature of 135 deg F (57 deg C) or a rate of rise that exceeds 15 deg F (8 deg C) per minute unless otherwise indicated.
1. Mounting: Twist-lock base interchangeable with smoke-detector bases.
 2. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.

- C. Heat Detector, Fixed-Temperature Type: Actuated by temperature that exceeds a fixed temperature of 190 deg F (88 deg C).
 - 1. Mounting: Twist-lock base interchangeable with smoke-detector bases.
 - 2. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.

2.10 CONVENTIONAL HEAT DETECTORS

- A. General Requirements for Heat Detectors: Comply with UL 521.
- B. Heat Detector, Combination Type: Actuated by either a fixed temperature of 135 deg F (57 deg C) or a rate of rise that exceeds 15 deg F (8 deg C) per minute unless otherwise indicated.
 - 1. Mounting: Twist-lock base interchangeable with smoke-detector bases.
- C. Heat Detector, Fixed-Temperature Type: Actuated by temperature that exceeds a fixed temperature of 190 deg F (88 deg C).
 - 1. Mounting: Twist-lock base interchangeable with smoke-detector bases.

2.11 NOTIFICATION APPLIANCES

- A. General Requirements for addressable and conventional Notification Appliances: Connected to notification-appliance signal circuits, zoned as indicated, equipped for mounting as indicated, and with screw terminals for system connections.
 - 1. Combination Devices: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.
- B. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille. Comply with UL 464. Horns shall produce a sound-pressure level of 90 dBA, measured 10 feet (3 m) from the horn, using the coded signal prescribed in UL 464 test protocol.
- C. Visible Notification Appliances: Xenon strobe lights complying with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch- (25-mm-) high letters on the lens.
 - 1. Rated Light Output:
 - a. 15/30/75/110 cd, selectable in the field.
 - 2. Mounting: Wall mounted unless otherwise indicated.
 - 3. Flashing shall be in a temporal pattern, synchronized with other units.
 - 4. Strobe Leads: Factory connected to screw terminals.
 - 5. Mounting Faceplate: Factory finished, to match existing devices.
- D. Voice/Tone Notification Appliances:

1. Comply with UL 1480.
2. Speakers for Voice Notification: Locate speakers for voice notification to provide the intelligibility requirements of the "Notification Appliances" and "Emergency Communications Systems" chapters in NFPA 72.
3. High-Range Units: Rated 2 to 15 W.
4. Low-Range Units: Rated 1 to 2 W.
5. Mounting: Flush
6. Matching Transformers: Tap range matched to acoustical environment of speaker location.

2.12 REMOTE ANNUNCIATOR

- A. Description: Annunciator functions shall match those of fire-alarm control unit for alarm, supervisory, and trouble indications. Manual switching functions shall match those of fire-alarm control unit, including acknowledging, silencing, resetting, and testing.
 1. Mounting: Flush or Surface cabinet, NEMA 250, Type 1 for dry indoor locations and Type 4X for all outdoor locations.
- B. Display Type and Functional Performance: Alphanumeric display and LED indicating lights shall match those of fire-alarm control unit. Provide controls to acknowledge, silence, reset, and test functions for alarm, supervisory, and trouble signals.

2.13 ADDRESSABLE INTERFACE DEVICE

- A. General:
 1. Include address-setting means on the module.
 2. Store an internal identifying code for control panel use to identify the module type.
 3. Listed for controlling HVAC fan motor controllers.
- B. Monitor Module: Microelectronic module providing a system address for alarm-initiating devices for wired applications with normally open contacts.
- C. Integral Relay: Capable of providing a direct signal to elevator controller to initiate elevator recall and to circuit-breaker shunt trip for power shutdown.
 1. Allow the control panel to switch the relay contacts on command.
 2. Have a minimum of two normally open and two normally closed contacts available for field wiring.
- D. Control Module:
 1. Operate notification devices.
 2. Operate solenoids for use in sprinkler service.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
 - 1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.
- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EQUIPMENT INSTALLATION

- A. Comply with NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
 - 1. Devices placed in service before all other trades have completed cleanup shall be replaced.
 - 2. Devices installed but not yet placed in service shall be protected from construction dust, debris, dirt, moisture, and damage according to manufacturer's written storage instructions.
- B. Connecting to Existing Equipment: Verify that existing fire-alarm system is operational before making changes or connections.
 - 1. Existing devices shall be disconnected from the existing control panel where indicated on drawings and reconnected to new fire alarm control panel. Provide all necessary supplemental equipment, terminal cabinets, booster panels, etc. and programming required to tie existing end devices into new system without degrading the performance of either system.
- C. Install wall-mounted equipment, with tops of cabinets not more than 78 inches (1980 mm) above the finished floor.
- D. Manual Fire-Alarm Boxes:
 - 1. Install manual fire-alarm box in the normal path of egress within 60 inches (1520 mm) of the exit doorway.
 - 2. Mount manual fire-alarm box on a background of a contrasting color.
 - 3. The operable part of manual fire-alarm box shall be between 42 inches (1060 mm) and 48 inches (1220 mm) above floor level. All devices shall be mounted at the same height unless otherwise indicated.

E. Smoke- or Heat-Detector Spacing:

1. Comply with the "Smoke-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
2. Comply with the "Heat-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
3. Smooth ceiling spacing shall not exceed 30 feet (9 m).
4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Annex A in NFPA 72.
5. HVAC: Locate detectors not closer than 36 inches (910 mm) from air-supply diffuser or return-air opening.
6. Lighting Fixtures: Locate detectors not closer than 12 inches (300 mm) from any part of a lighting fixture and not directly above pendant mounted or indirect lighting.

F. Install a cover on each smoke detector that is not placed in service during construction. Cover shall remain in place except during system testing. Remove cover prior to system turnover.

G. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend the full width of duct. Tubes more than 36 inches (9100 mm) long shall be supported at both ends.

1. Do not install smoke detector in duct smoke-detector housing during construction. Install detector only during system testing and prior to system turnover.

H. Elevator Shafts: Coordinate temperature rating and location with sprinkler rating and location. Do not install smoke detectors in sprinklered elevator shafts.

I. Remote Status and Alarm Indicators: Install in a visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.

J. Audible Alarm-Indicating Devices: Install not less than 6 inches (150 mm) below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all devices at the same height unless otherwise indicated.

K. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inches (150 mm) below the ceiling. Install all devices at the same height unless otherwise indicated.

L. Device Location-Indicating Lights: Locate in public space near the device they monitor.

3.3 PATHWAYS

A. Refer to Division 26 specification sections for wiring and conduit types and applications.

B. All conduits and junction box covers shall be painted red enamel.

3.4 CONNECTIONS

- A. For fire-protection systems related to doors in fire-rated walls and partitions and to doors in smoke partitions, comply with requirements in Section 087100 "Door Hardware." Connect hardware and devices to fire-alarm system.
 - 1. Verify that hardware and devices are listed for use with installed fire-alarm system before making connections.
- B. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 36 inches (910 mm) from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.
 - 1. Alarm-initiating connection to elevator recall system and components.
 - 2. Supervisory connections at valve supervisory switches.
 - 3. Supervisory connections at elevator shunt-trip breaker.

3.5 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals.
- B. Install framed instructions in a location visible from fire-alarm control unit.

3.6 GROUNDING

- A. Ground fire-alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire-alarm control unit.
- B. Ground shielded cables at the control panel location only. Insulate shield at device location.

3.7 FIELD QUALITY CONTROL

- A. Field tests shall be witnessed by authorities having jurisdiction, Owner, and Engineer.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
- D. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 - 1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.

- b. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
 2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
 4. Test visible appliances for the public operating mode according to manufacturer's written instructions.
 5. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- E. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.
- F. Fire-alarm system will be considered defective if it does not pass tests and inspections.
- G. Prepare test and inspection reports.
- H. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.
- I. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.

3.8 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
1. Include visual inspections according to the "Visual Inspection Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 2. Perform tests in the "Test Methods" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 3. Perform tests per the "Testing Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.

3.9 SOFTWARE SERVICE AGREEMENT

- A. Comply with UL 864.

- B. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.
- C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
 - 1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.

3.10 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system. A minimum of 2 hours training shall be provided for each site.

END OF SECTION

STATE OF NEW HAMPSHIRE
 Department of Administrative Services
 DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION

FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS

STATEWIDE

DPW Project #81248
 Contract C

1776



7 Hazen Drive PO Box 483 Room 250
 Concord, New Hampshire 03301
 603-271-3516 603-271-3515

COMMISSIONER/CHIEF ENGINEER OF ADMINISTRATIVE SERVICES

DATE: _____

ADMINISTRATOR/DEPUTY CHIEF OF PUBLIC WORKS

DATE: _____

COMMISSIONER/CHIEF ENGINEER OF ADMINISTRATIVE SERVICES

DATE: _____

LOCUS MAP



REVISIONS

DATE	SYMBOL	DESCRIPTION

PROJECT NAME
 Fire Alarm Replacement-
 Multiple Locations
 PROJECT NUMBER
 81248-B

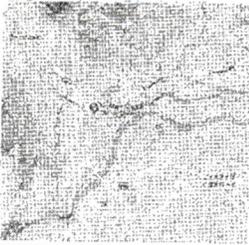
ISSUE DATE
 09/05/2024

SHEET NUMBER
 T-1



ELECTRICAL
 Richardson Engineering
 South Berwick, Maine
 p. 603-384-0995
 e. info@richardson-eng.com

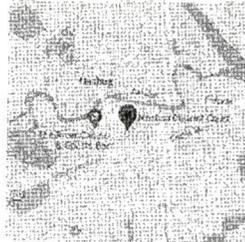
SITE LOCATIONS



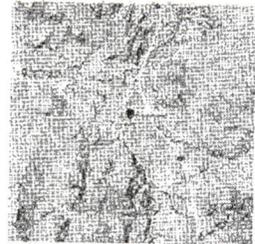
CENTER CONWAY, NH SITE
 3RD CIRCUIT - FAMILY DIVISION - CONWAY
 35 EAST CONWAY ROAD
 CENTER CONWAY, NH 03813



LANCASTER, NH SITE
 1ST CIRCUIT - DISTRICT DIVISION - LANCASTER
 55 SCHOOL STREET #201
 LANCASTER, NH 03584



NASHUA, NH SITE
 9TH CIRCUIT - DISTRICT DIVISION - NASHUA
 30 SPRING STREET
 NASHUA, NH 03060



PLYMOUTH, NH SITE
 2ND CIRCUIT - DISTRICT DIVISION - PLYMOUTH
 26 GREEN STREET
 PLYMOUTH, NH 03264

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- PL-FA2 PLYMOUTH SECOND FLOOR FIRE ALARM PLAN
- PL-FA3 PLYMOUTH THIRD FLOOR FIRE ALARM PLAN

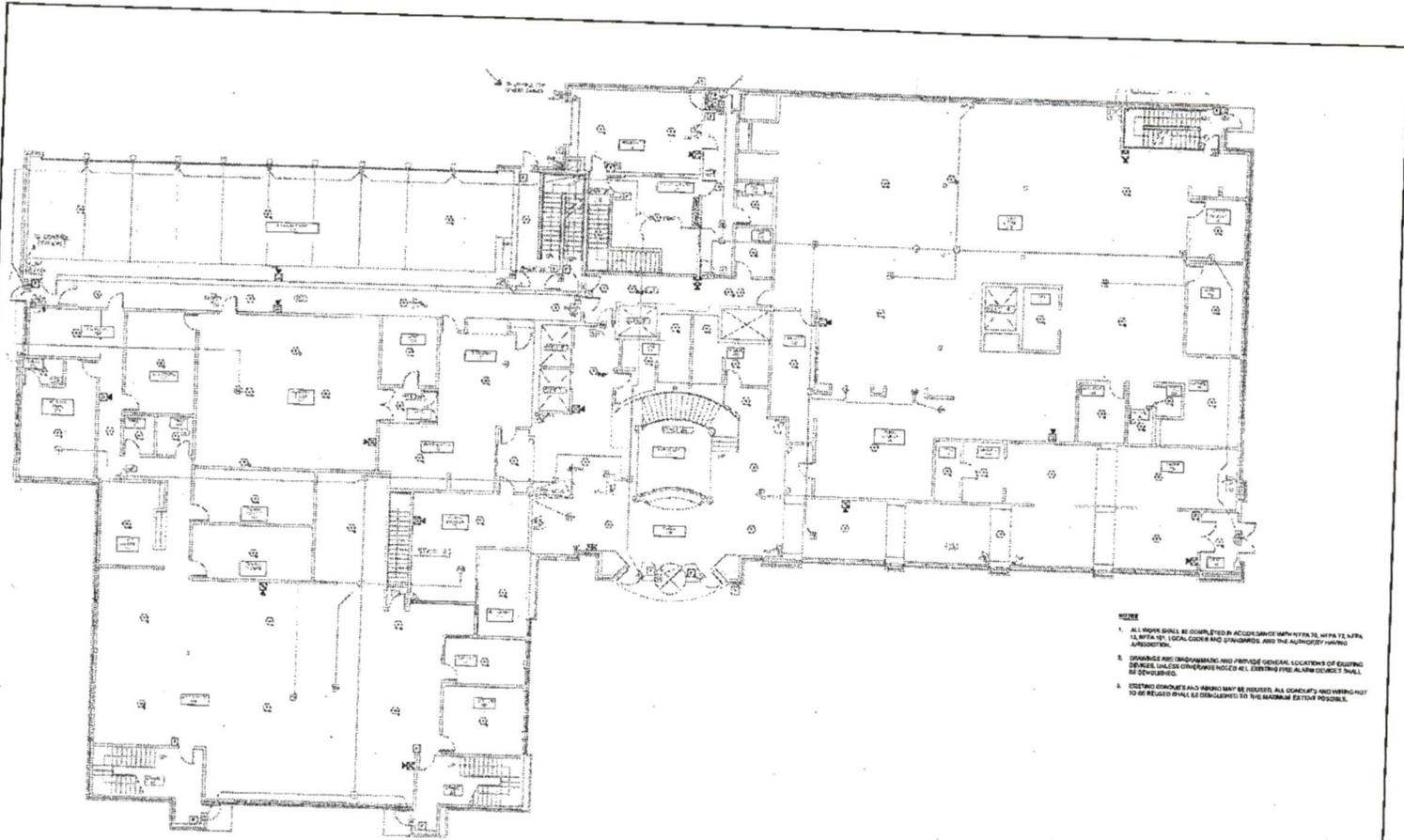
 RICHARDSON ENGINEERS & ARCHITECTS 1000 MARKET STREET NEWTON, MASSACHUSETTS 02459 TEL: (617) 552-1100 FAX: (617) 552-1101 WWW.RICHARDSON-MASS.COM		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS		DATE	DESCRIPTION							FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES
		REVISIONS												
		DATE	DESCRIPTION											
JAMES G. MACFARLANE ENGINEER, NEW HAMPSHIRE, EXERCISE ONLY NO. 14457, EXPIRES 03/31/2025		PROJECT NO. 007 SHEET NO. 001 DATE 07/2024		SITE LOCATIONS & SHEET INDEX SHEET NO. 001 OF 001										
NEW PROJECT NO. 007		SHEET NO. 001 OF 001		DATE 07/2024										

LOCATION 3

NASHUA

9TH CIRCUIT – DISTRICT DIVISION

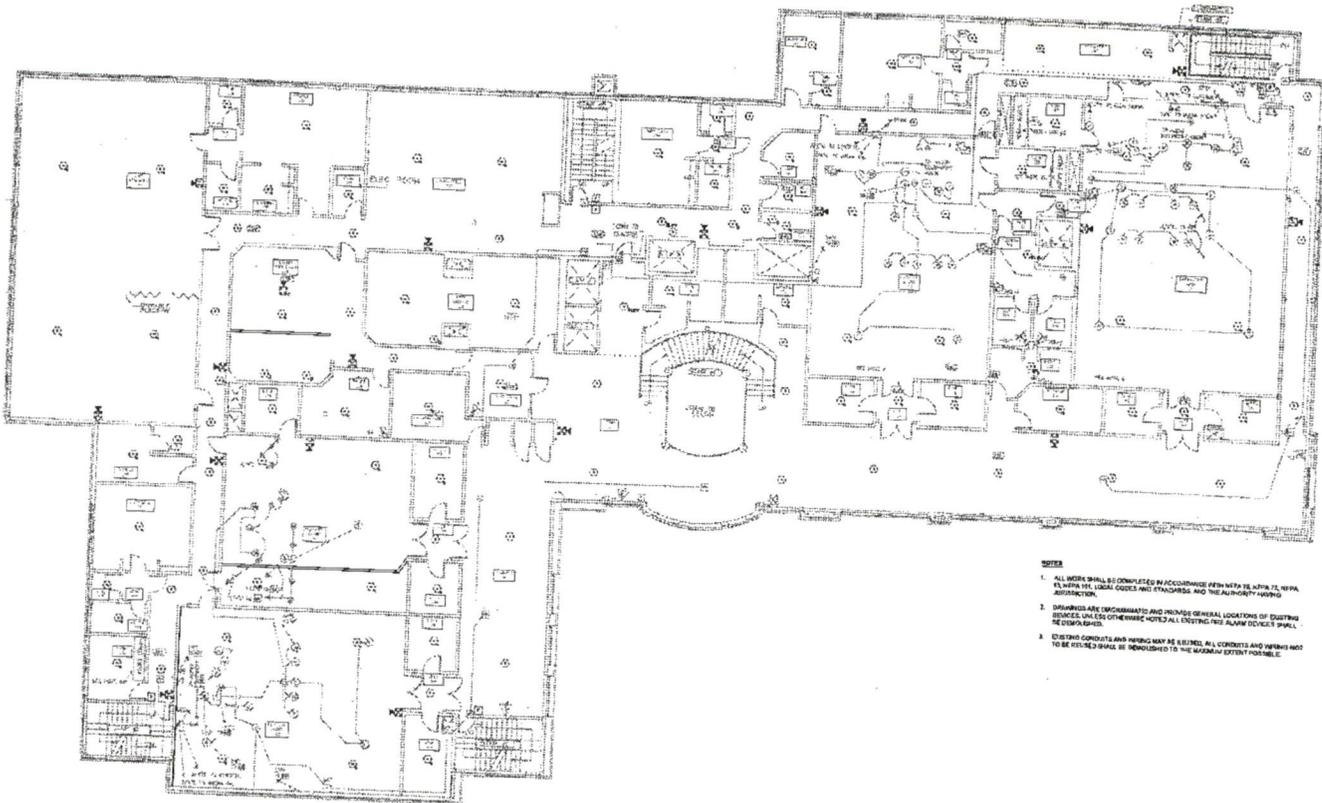
30 SPRING STREET, NASHUA, NH 03060



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 72, NFPA 10, NFPA 13, LOCAL CODES AND STANDARDS AND THE AIA/CES/IBCF PAPER.
 2. DISPLACE AND/OR DEMONSTRATE THE FIRE ALARM DEVICES LOCATIONS OF EXISTING DEVICES UNLESS OTHERWISE NOTED ALL EXISTING FIRE ALARM DEVICES SHALL BE DEMONSTRATED.
 3. EXISTING DEVICES AND WIRING MAY BE REUSED ALL CONTACTS INVOLVED MUST TO BE REUSED OR WIRE BE DEMONSTRATED TO THE MAXIMUM EXTENT POSSIBLE.

FIRST FLOOR FIRE ALARM DEMO PLAN
SCALE 1/4" = 1'-0"

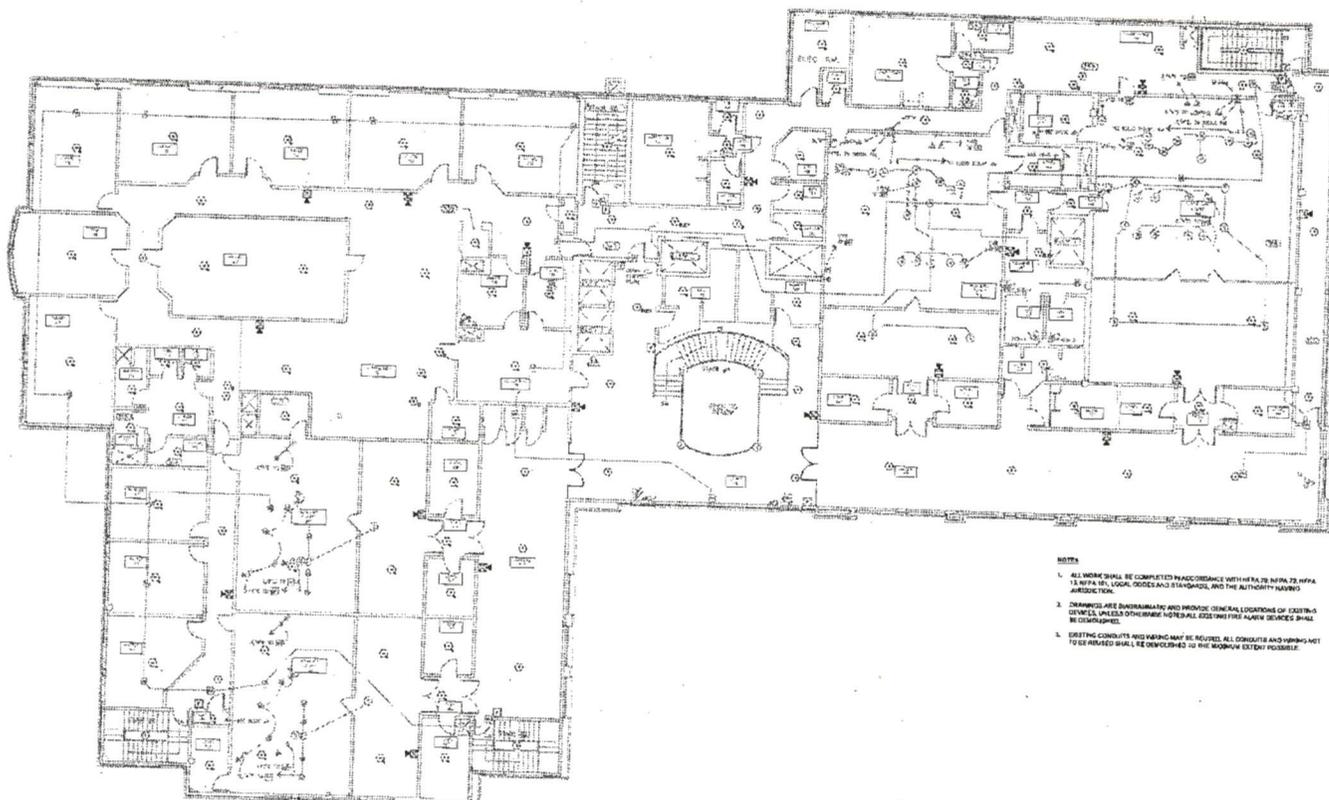
RICHARDSON ELECTRICAL MECHANICAL & CONSTRUCTION 1000 W. 10th Street Concord, NH 03301 Tel: 603-224-1111		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION		REVISIONS NO. DATE BY		FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES MADRAS FIRST FLOOR FIRE ALARM DEMO PLAN	DATE: 01/26/2024 DRAWN BY: J. HARRIS CHECKED BY: J. HARRIS PROJECT NO.: 24-001
		DATE: 01/26/2024 BY: J. HARRIS	DATE: 01/26/2024 BY: J. HARRIS	DATE: 01/26/2024 BY: J. HARRIS	DATE: 01/26/2024 BY: J. HARRIS		



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70, NFPA 72, NFPA 96, NFPA 101, LOCAL CODES AND STANDARDS AND THE AUTHORITY HAVING JURISDICTION.
 2. DRAWINGS ARE INFORMATIONAL AND SHOW GENERAL LOCATIONS OF EXISTING DEVICES UNLESS OTHERWISE NOTED. ALL EXISTING FIRE ALARM DEVICES SHALL BE DEMONSTRATED.
 3. EXISTING CONDUITS AND PIPING MAY BE REUSED. ALL CONDUITS AND PIPING NOT TO BE REUSED SHALL BE DEMONSTRATED TO THE MAXIMUM EXTENT POSSIBLE.

SECOND FLOOR FIRE ALARM DEMO PLAN
SCALE: 1/4" = 1'-0"

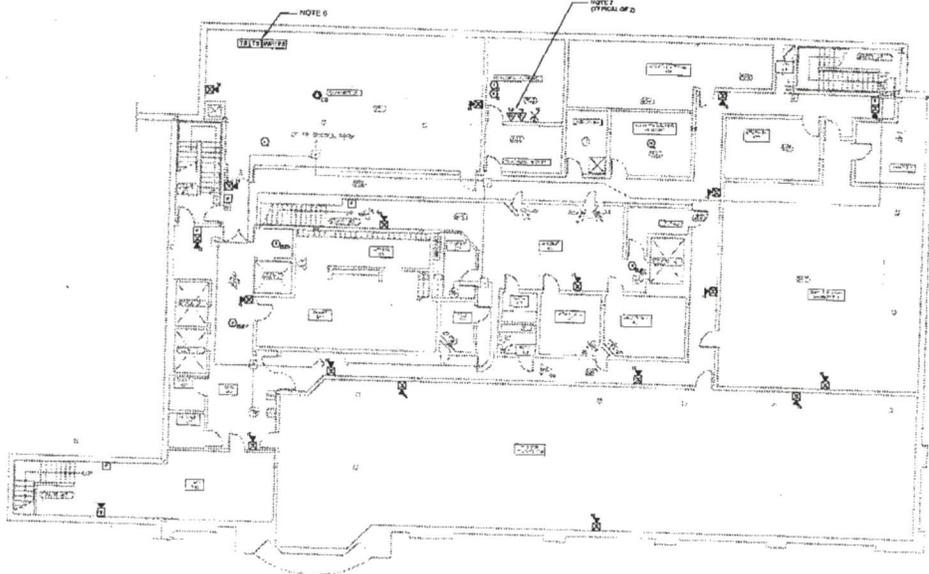
RICHARDSON CONSULTANTS 1000 W. 10th Street Concord, NH 03301 TEL: 603-224-1100 FAX: 603-224-1101 WWW: www.richardson-consultants.com		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION		DIVISION DESCRIPTION DATE		FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES
		PROJECT NO. 1000-0000 SHEET NO. 1000-0000	DATE 10/1/2014 DRAWN BY: [Name] CHECKED BY: [Name]	PROJECT NO. 1000-0000 SHEET NO. 1000-0000	PROJECT NO. 1000-0000 SHEET NO. 1000-0000	



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 72, NFPA 70, NFPA 75, NFPA 78, NFPA 79, NFPA 80, NFPA 85, NFPA 86, NFPA 87, NFPA 88, NFPA 89, NFPA 90, NFPA 91, NFPA 92, NFPA 93, NFPA 94, NFPA 95, NFPA 96, NFPA 97, NFPA 98, NFPA 99, NFPA 100, NFPA 101, NFPA 102, NFPA 103, NFPA 104, NFPA 105, NFPA 106, NFPA 107, NFPA 108, NFPA 109, NFPA 110, NFPA 111, NFPA 112, NFPA 113, NFPA 114, NFPA 115, NFPA 116, NFPA 117, NFPA 118, NFPA 119, NFPA 120, NFPA 121, NFPA 122, NFPA 123, NFPA 124, NFPA 125, NFPA 126, NFPA 127, NFPA 128, NFPA 129, NFPA 130, NFPA 131, NFPA 132, NFPA 133, NFPA 134, NFPA 135, NFPA 136, NFPA 137, NFPA 138, NFPA 139, NFPA 140, NFPA 141, NFPA 142, NFPA 143, NFPA 144, NFPA 145, NFPA 146, NFPA 147, NFPA 148, NFPA 149, NFPA 150, NFPA 151, NFPA 152, NFPA 153, NFPA 154, NFPA 155, NFPA 156, NFPA 157, NFPA 158, NFPA 159, NFPA 160, NFPA 161, NFPA 162, NFPA 163, NFPA 164, NFPA 165, NFPA 166, NFPA 167, NFPA 168, NFPA 169, NFPA 170, NFPA 171, NFPA 172, NFPA 173, NFPA 174, NFPA 175, NFPA 176, NFPA 177, NFPA 178, NFPA 179, NFPA 180, NFPA 181, NFPA 182, NFPA 183, NFPA 184, NFPA 185, NFPA 186, NFPA 187, NFPA 188, NFPA 189, NFPA 190, NFPA 191, NFPA 192, NFPA 193, NFPA 194, NFPA 195, NFPA 196, NFPA 197, NFPA 198, NFPA 199, NFPA 200, NFPA 201, NFPA 202, NFPA 203, NFPA 204, NFPA 205, NFPA 206, NFPA 207, NFPA 208, NFPA 209, NFPA 210, NFPA 211, NFPA 212, NFPA 213, NFPA 214, NFPA 215, NFPA 216, NFPA 217, NFPA 218, NFPA 219, NFPA 220, NFPA 221, NFPA 222, NFPA 223, NFPA 224, NFPA 225, NFPA 226, NFPA 227, NFPA 228, NFPA 229, NFPA 230, NFPA 231, NFPA 232, NFPA 233, NFPA 234, NFPA 235, NFPA 236, NFPA 237, NFPA 238, NFPA 239, NFPA 240, NFPA 241, NFPA 242, NFPA 243, NFPA 244, NFPA 245, NFPA 246, NFPA 247, NFPA 248, NFPA 249, NFPA 250, NFPA 251, NFPA 252, NFPA 253, NFPA 254, NFPA 255, NFPA 256, NFPA 257, NFPA 258, NFPA 259, NFPA 260, NFPA 261, NFPA 262, NFPA 263, NFPA 264, NFPA 265, NFPA 266, NFPA 267, NFPA 268, NFPA 269, NFPA 270, NFPA 271, NFPA 272, NFPA 273, NFPA 274, NFPA 275, NFPA 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476, NFPA 477, NFPA 478, NFPA 479, NFPA 480, NFPA 481, NFPA 482, NFPA 483, NFPA 484, NFPA 485, NFPA 486, NFPA 487, NFPA 488, NFPA 489, NFPA 490, NFPA 491, NFPA 492, NFPA 493, NFPA 494, NFPA 495, NFPA 496, NFPA 497, NFPA 498, NFPA 499, NFPA 500, NFPA 501, NFPA 502, NFPA 503, NFPA 504, NFPA 505, NFPA 506, NFPA 507, NFPA 508, NFPA 509, NFPA 510, NFPA 511, NFPA 512, NFPA 513, NFPA 514, NFPA 515, NFPA 516, NFPA 517, NFPA 518, NFPA 519, NFPA 520, NFPA 521, NFPA 522, NFPA 523, NFPA 524, NFPA 525, NFPA 526, NFPA 527, NFPA 528, NFPA 529, NFPA 530, NFPA 531, NFPA 532, NFPA 533, NFPA 534, NFPA 535, NFPA 536, NFPA 537, NFPA 538, NFPA 539, NFPA 540, NFPA 541, NFPA 542, NFPA 543, NFPA 544, NFPA 545, NFPA 546, NFPA 547, NFPA 548, NFPA 549, NFPA 550, NFPA 551, NFPA 552, NFPA 553, NFPA 554, NFPA 555, NFPA 556, NFPA 557, NFPA 558, NFPA 559, NFPA 560, NFPA 561, NFPA 562, NFPA 563, NFPA 564, NFPA 565, NFPA 566, NFPA 567, NFPA 568, NFPA 569, NFPA 570, NFPA 571, NFPA 572, NFPA 573, NFPA 574, NFPA 575, NFPA 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976, NFPA 977, NFPA 978, NFPA 979, NFPA 980, NFPA 981, NFPA 982, NFPA 983, NFPA 984, NFPA 985, NFPA 986, NFPA 987, NFPA 988, NFPA 989, NFPA 990, NFPA 991, NFPA 992, NFPA 993, NFPA 994, NFPA 995, NFPA 996, NFPA 997, NFPA 998, NFPA 999, NFPA 1000.
 2. DIMENSIONS ARE DIMENSIONAL AND PROVIDE GENERAL LOCATIONS OF EXISTING DEVICES. UNLESS OTHERWISE NOTED ALL EXISTING FIRE ALARM DEVICES SHALL BE DEMOLISHED.
 3. EXISTING CONDUITS AND WIRING MAY BE REUSED. ALL CONDUITS AND WIRING NOT TO BE REUSED SHALL BE DEMOLISHED TO THE MAXIMUM EXTENT POSSIBLE.

THIRD FLOOR FIRE ALARM DEMO PLAN
SCALE: 1/8" = 1'-0"

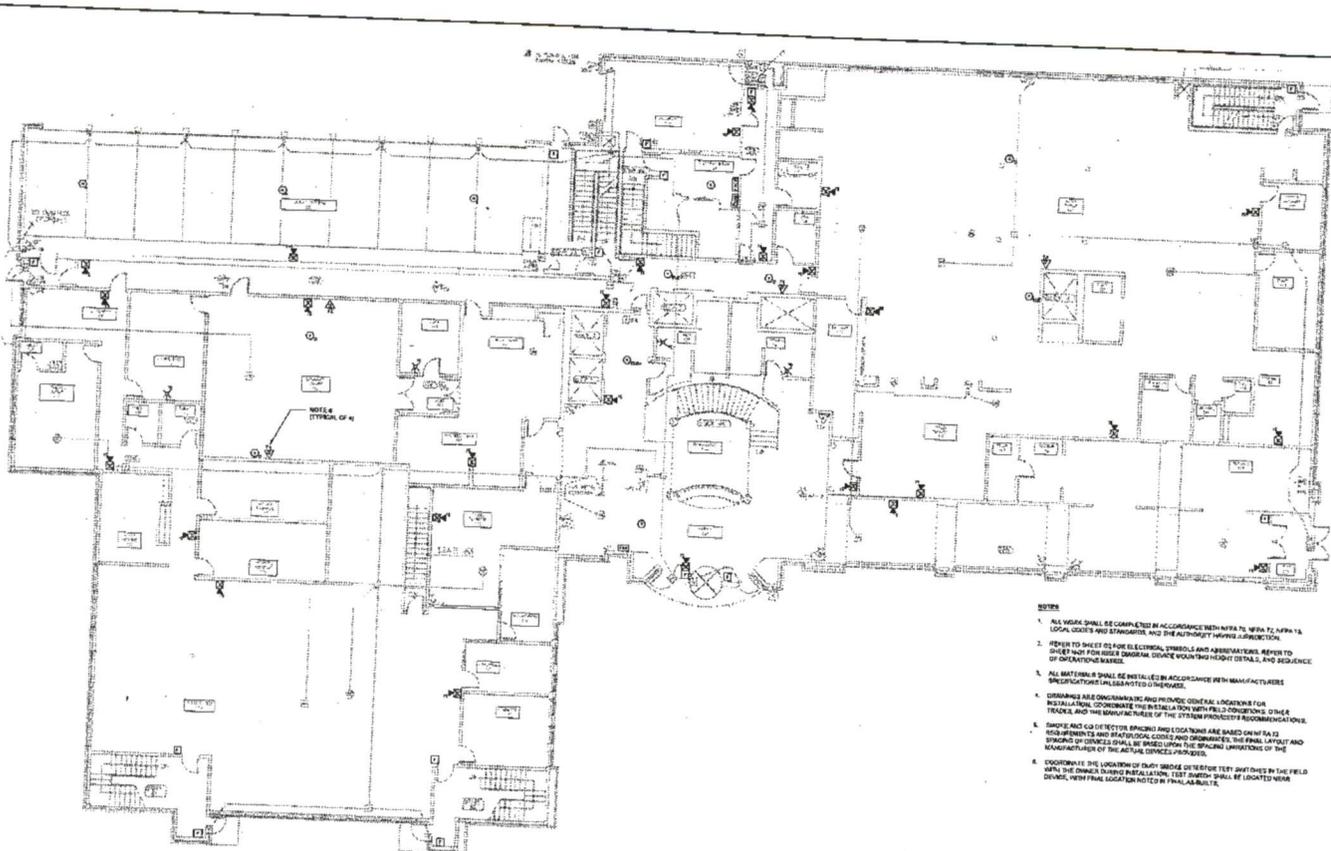
RICHARDSON ELECTRICAL ENGINEERS & ARCHITECTS 1000 FREDERICK ST. PORTSMOUTH, NH 03801 TEL: 603-888-1111		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION		REVISIONS NO. DESCRIPTION DATE BY		FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES NAGRA, THREE FLOOR FIRE ALARM DEMO PLAN	SHEET NO. 1 OF 1 DATE 11/20/2024
		JOHN D. MURPHY PROFESSIONAL ENGINEER LICENSE NO. 10000 EXPIRES 12/31/2024		1. 11/20/2024 JDM 2. 11/20/2024 JDM 3. 11/20/2024 JDM			



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70B APPROVED WITH THE LOCAL CODES AND STANDARDS, AND THE AUTHORITY HAVING JURISDICTION.
 2. REFER TO SHEET OF FINAL LICENSE AND ADMINISTRATION REVIEW TO SHEET AND FOR REVISIONS TO THIS PLAN. REVISIONS SHALL BE SHOWN ON THIS SHEET AND NOT ON THE ORIGINAL DRAWING.
 3. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS UNLESS NOTED OTHERWISE.
 4. DRAWINGS ARE GOVERNED BY THE REGULATIONS WITH REGARD TO THE LOCATION, OTHER TRACES AND THE MANUFACTURE OF THE SYSTEM PARALLELS.
 5. SPACING AND DETECTOR SPACING AND LOCATIONS ARE BASED ON NFPA 72 RECOMMENDATIONS OF RESIDUAL VOLTAGE AND DISCONNECT. THE FINAL LAYOUT AND SPACING OF DEVICES SHALL BE BASED UPON THE SIGNATURE MANUFACTURE OF THE MANUFACTURE OF THE ACTUAL DEVICES PROVIDED.
 6. APPROPRIATE LOCATION OF DEVICES SPACINGS AND LOCATIONS SHALL BE BASED ON NFPA 72 RECOMMENDATIONS OF RESIDUAL VOLTAGE AND DISCONNECT. THE FINAL LAYOUT AND SPACING OF DEVICES SHALL BE BASED UPON THE SIGNATURE MANUFACTURE OF THE MANUFACTURE OF THE ACTUAL DEVICES PROVIDED.
 7. COORDINATE THE LOCATION OF QUIET ZONE DETECTOR TEST BATTERIES IN THE FIELD WITH THE OTHER BATTERY INSTALLATION. TEST BATTERIES SHALL BE LOCATED NEAR OTHER BATTERY INSTALLATION UNLESS OTHERWISE NOTED OTHERWISE.

BASEMENT FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

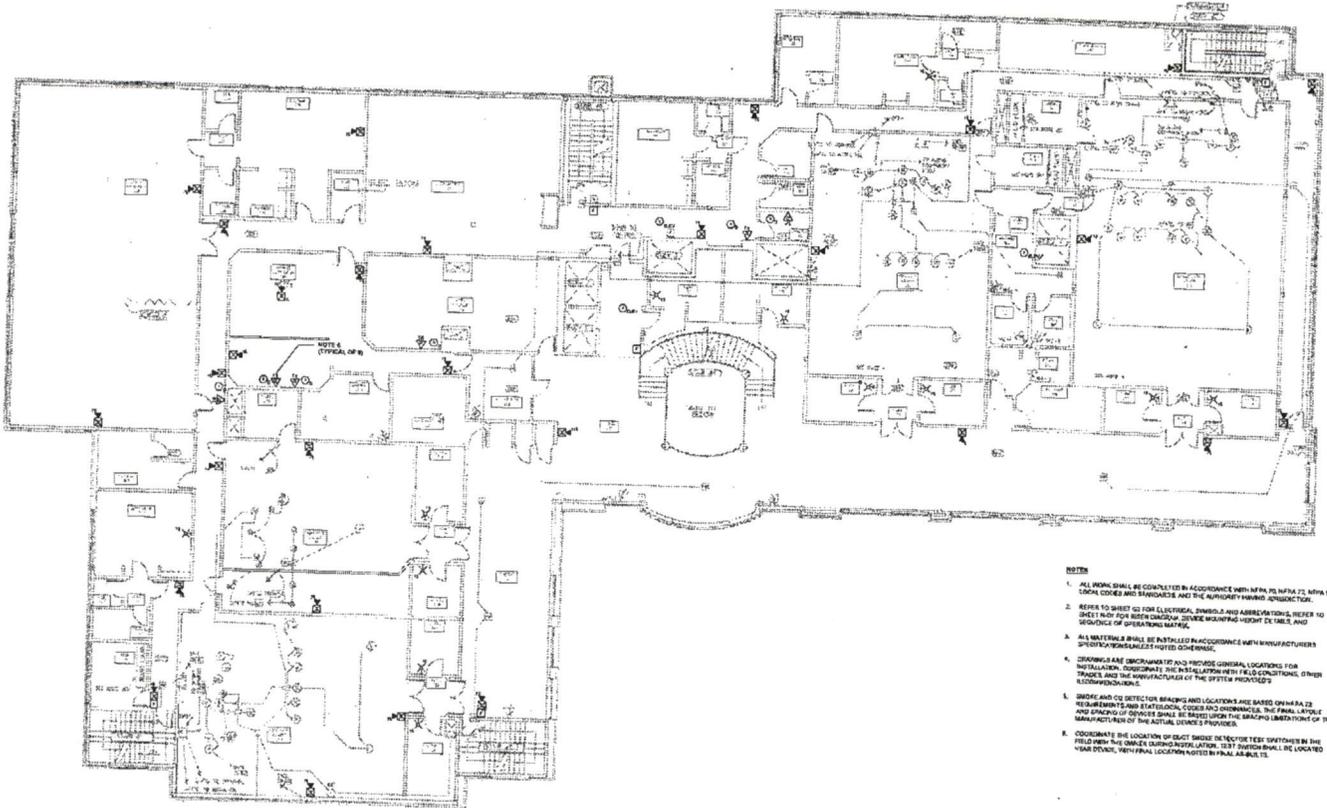
RICHARDSON ENGINEERS & ARCHITECTS 1000 WEST 10TH AVENUE DENVER, CO 80202 TEL: 303.733.1111 FAX: 303.733.1112		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION		REVISIONS DATE: 01/15/2024 BY: RJA REASON: INITIAL FOR OPERATIONS		FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES PROJECT: STATEMENT FIRE ALARM PLAN SHEET NO. 107 OF 107
		PROJECT: STATEMENT FIRE ALARM PLAN SHEET NO. 107 OF 107		SHEET NO. 107 OF 107		



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 72, NFPA 78, LOCAL CODES AND STANDARDS, AND THE AUTHORITY HAVING JURISDICTION.
 2. REFER TO SHEET 02 FOR ELECTRICAL SYMBOLS AND APPROPRIATE REFERENCE TO SHEET AND FOR WIRE SCHEDULE, DEVICE MOUNTING HEIGHT DETAILS, AND SEQUENCE OF OPERATIONS MARKED.
 3. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS AND LISTED IN THESE SPECIFICATIONS.
 4. DISTANCES ARE DIMENSIONED AND PROVIDE GENERAL LOCATIONS FOR INSTALLATION. COORDINATE WITH THE INSTALLATION WITH FIELD CONDITIONS, OTHER TRADES, AND THE SERVICE NEEDS OF THE SYSTEM PROVIDER'S RECOMMENDATIONS.
 5. SYMBOL AND CO-ORDINATE LOCATIONS AND LOGIC ARE BASED ON NFPA 72 REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS. THE FINAL LAYOUT AND WIRING OF DEVICES SHALL BE BASED UPON THE SPECIFIC INSTALLATION OF THE MANUFACTURER OF THE ACTIVE DEVICES (P-00-000).
 6. COORDINATE THE LOCATION OF EVERY DEVICE DETECTOR WITH THE FIELD WITH THE ORIGINAL DESIGN INSTALLATION. TEST SWITCH SHALL BE LOCATED WITHIN THE ORIGINAL DESIGN INSTALLATION. TEST SWITCH SHALL BE LOCATED WITHIN THE ORIGINAL DESIGN INSTALLATION. TEST SWITCH SHALL BE LOCATED WITHIN THE ORIGINAL DESIGN INSTALLATION. TEST SWITCH SHALL BE LOCATED WITHIN THE ORIGINAL DESIGN INSTALLATION.

FIRST FLOOR FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

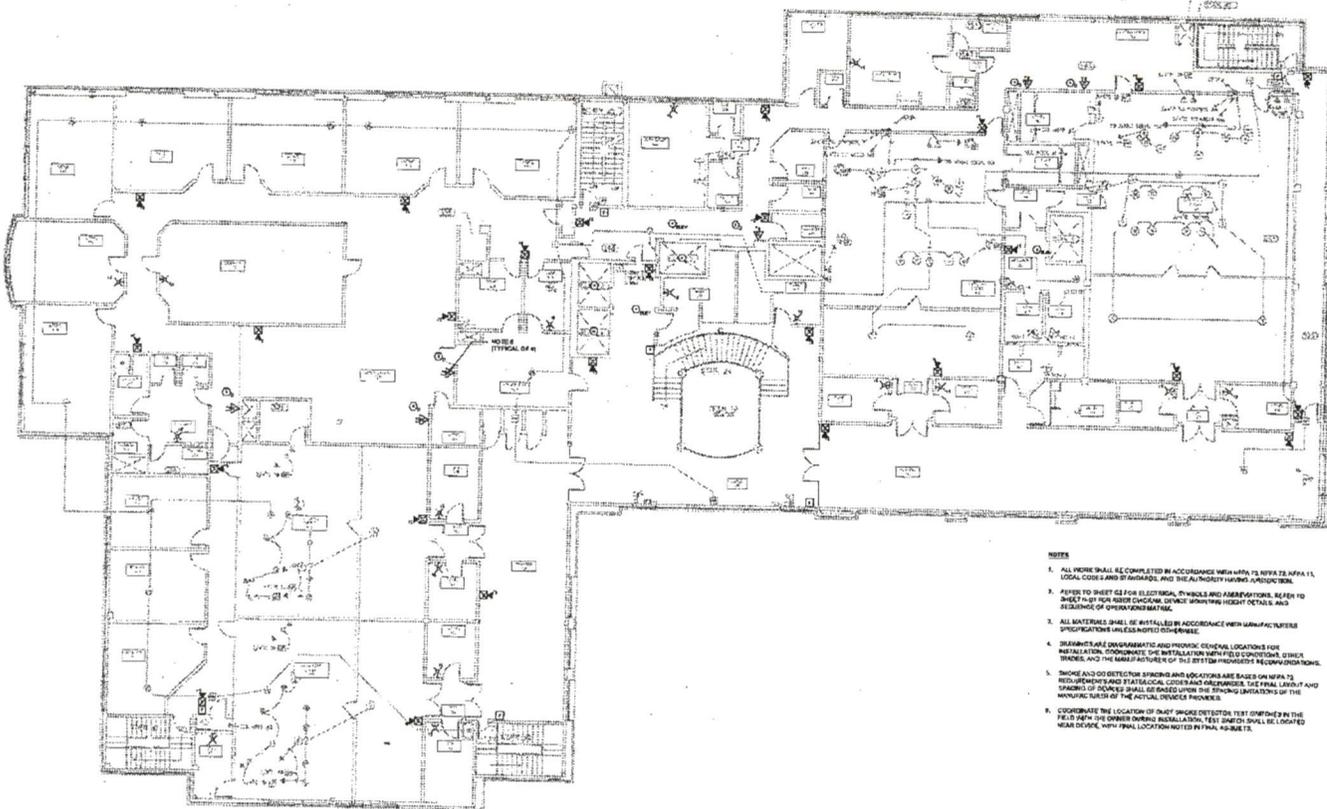
RICHARDSON ENGINEERS & ARCHITECTS 1000 W. 10th Street, Suite 100 Des Moines, IA 50319 Phone: 515-281-1111 Fax: 515-281-1112 www.richardson-engineers.com		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION	<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION	BY																	FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES NAHSA FIRST FLOOR FIRE ALARM PLAN SHEET NO. 10000 DATE: 04/20/2024 DRAWN BY: [Name] CHECKED BY: [Name]
		NO.	DATE	DESCRIPTION	BY																			
PROJECT NO. 2024-001 DRAWING NO. 10000-01 DATE: 04/20/2024	PROJECT NO. 2024-001 DRAWING NO. 10000-01 DATE: 04/20/2024	PROJECT NO. 2024-001 DRAWING NO. 10000-01 DATE: 04/20/2024	PROJECT NO. 2024-001 DRAWING NO. 10000-01 DATE: 04/20/2024																					



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70, NFPA 72, NFPA 96, LOCAL CODES AND BYLAWS AND THE AUTHORITY HAVING JURISDICTION.
 2. REFER TO SHEET 20 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS. REFER TO SHEET 100 FOR AREA CIRCUMFERENCE MEASURING POINTS, VOLTAGE AND SERVICE OF OVERHEAD LINES.
 3. ALL MATERIALS SHALL BE MATCHED TO MANUFACTURERS SPECIFICATIONS UNLESS NOTED OTHERWISE.
 4. DRAWINGS ARE DIMENSIONED TO INDICATE GENERAL LOCATIONS FOR INSTALLATION. COORDINATE THE INSTALLATION WITH UTILITIES, OTHER TRADES AND THE MANUFACTURER OF THE SYSTEM PROVIDED.
 5. SMOKE AND CO DETECTOR BRACING AND LOCATION ARE BASED ON NFPA 72 REQUIREMENTS AND STANDARDS. COVER AND COORDINATE. THE FINAL LAYOUT AND SPACING OF DEVICES SHALL BE BASED ON THE BRACING LAYOUT OF THE MANUFACTURER OF THE ACTIVE DEVICE PROVIDED.
 6. COORDINATE THE LOCATION OF PULL STATION DETECTOR SWITCHES IN THE FIELD WITH THE OWNER DURING INSPECTION. TEST DEVICES SHALL BE LOCKED WHEN DONE. VERIFY FINAL LOCATION NOTED BY FINAL AS-BUILTS.

SECOND FLOOR FIRE ALARM PLAN
SCALE 1/8" = 1'-0"

RICHARDSON ARCHITECTS & ENGINEERS 1000		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION	REVISIONS NO. DATE BY 1 11/15/2011 JSM	FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES
		SHEET NO. 100 PROJECT NO. 100-100 DATE 11/15/2011	DRAWN BY: JSM CHECKED BY: JSM DATE: 11/15/2011	TITLE: NASHUA SECOND FLOOR FIRE ALARM PLAN



- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 72, NFPA 11, LOCAL CODES AND STANDARDS, AND THE ALPHABETICALLY LISTED SPECIFICATIONS.
 2. REFER TO SHEET 02 FOR ELECTRICAL SYMBOLS AND ABREVIATIONS. REFER TO SHEET 01 FOR REFER TO SHEET 02 FOR ELECTRICAL SYMBOLS AND ABREVIATIONS. REFER TO SHEET 01 FOR REFER TO SHEET 02 FOR ELECTRICAL SYMBOLS AND ABREVIATIONS. REFER TO SHEET 01 FOR REFER TO SHEET 02 FOR ELECTRICAL SYMBOLS AND ABREVIATIONS.
 3. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND LISTED TO THE CODE.
 4. DRAWINGS ARE DIAGNOSTIC AND SHOW GENERAL LOCATIONS FOR INSTALLATION. COORDINATE THE INSTALLATION WITH FIELD CONDITIONS, OTHER TRADES AND THE MANUFACTURER'S OF THE DEVICES PROVIDED FOR THE WORK.
 5. SMOKE AND CO DETECTOR SYMBOLS AND LOCATIONS ARE BASED ON NFPA 72 REQUIREMENTS AND STATISTICAL DATA AND OTHERWISE, THE FINAL LAYOUT AND SPACING OF DEVICES SHALL BE BASED UPON THE SPACING DIRECTIONS OF THE MANUFACTURER OF THE ACTUAL DEVICES PROVIDED.
 6. COORDINATE THE LOCATION OF SMOKE DETECTOR TEST SWITCHES IN THE FIELD WITH THE OWNER DURING INSTALLATION. TEST SWITCHES SHALL BE LOCATED NEAR DEVICE, WITH PULL LOCATION NOTED IN THIS SUBJECT.

THIRD FLOOR FIRE ALARM PLAN
SCALE: 1/4" = 1'-0"

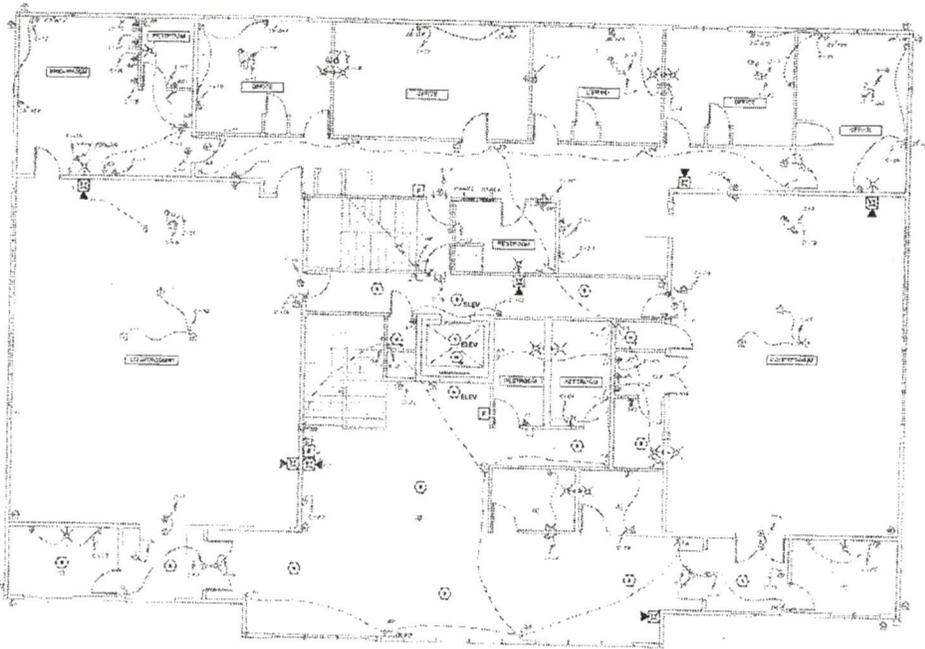
RICHARDSON ENGINEERS & ARCHITECTS 100 STATE STREET CONCORD, NH 03301 TEL: 603-224-1111 FAX: 603-224-1112		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION	REVISIONS NO. DATE BY 1 01/15/14 JLR 2 01/15/14 JLR 3 01/15/14 JLR 4 01/15/14 JLR 5 01/15/14 JLR	FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES HANRAH THIRD FLOOR FIRE ALARM PLAN
		PROJECT NO. 10000 DRAWING NO. 10000-000 SHEET NO. 10000-000-000 DATE 01/15/14	DATE 01/15/14 DRAWN BY JLR CHECKED BY JLR IN CHARGE BY JLR	DATE 01/15/14 DRAWN BY JLR CHECKED BY JLR IN CHARGE BY JLR

LOCATION 4

PLYMOUTH

2ND CIRCUIT - DISTRICT DIVISION

26 GREEN STREET, PLYMOUTH NH 03264



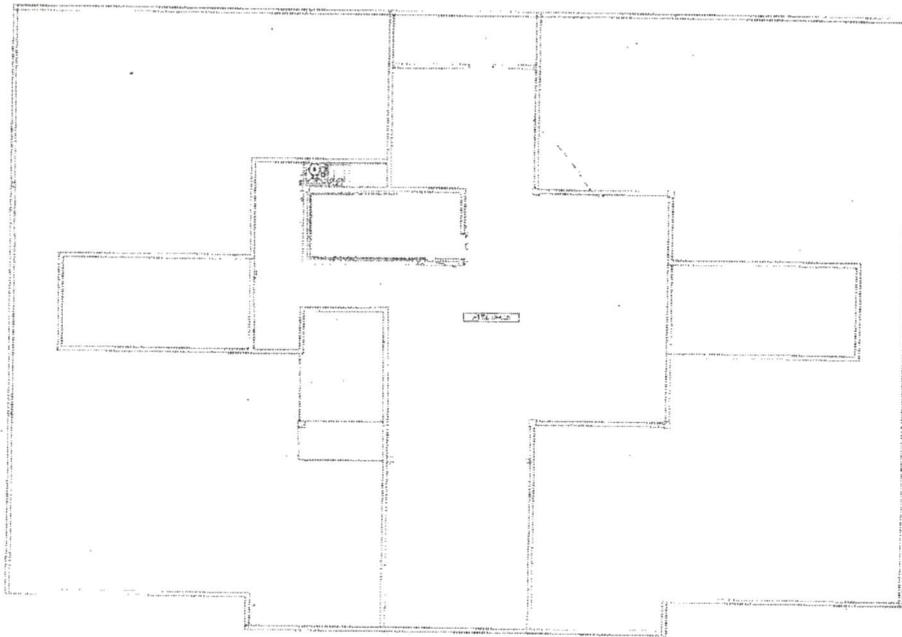
- NOTE**
1. ALL WORK SHALL BE COMPLETED BY ACCORDANCE WITH NFPA 70, NFPA 72, NFPA 10, NFPA 13, LOCAL CODES AND APPLICABLE REGULATORY AGENCIES.
 2. DEMONSTRATIONS AND FINISHES GENERAL LOCATIONS OF EXISTING DEVICES UNLESS OTHERWISE NOTED AS EXISTING FIRE ALARM DEVICES SHALL BE ENCLOSED.
 3. EXISTING CONDUITS AND WIRING MAY BE REUSED, ALL CONDUITS AND WIRING NOT TO BE REUSED SHALL BE DEMOLISHED TO THE MAXIMUM EXTENT POSSIBLE.

SECOND FLOOR FIRE ALARM DEMO PLAN
SCALE: 1/8" = 1'-0"



RICHARDSON ARCHITECTS & ENGINEERS 1000 W. 10th Street Des Moines, IA 50319 Phone: 515-281-1111 Fax: 515-281-1112		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION		REVISIONS NO. DATE DESCRIPTION 1 01/15/2024 ISSUED FOR CONSTRUCTION		FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES	
		PROJECT: 1000 W. 10th Street, Des Moines, IA 50319 CONTRACT NO.: 2023-2024 SHEET NO.: 101-2024		PROJECT: 1000 W. 10th Street, Des Moines, IA 50319 CONTRACT NO.: 2023-2024 SHEET NO.: 101-2024		PLANNING SECOND FLOOR FIRE ALARM DEMO PLAN DATE: 01/15/2024 DRAWN BY: [Name] CHECKED BY: [Name]	

- NOTES**
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70, NFPA 72, NFPA 13, NFPA 101, LOCAL ORDINANCES AND THE NEIGHBORHOOD FIRE DEPARTMENT.
 2. DIMENSIONS AND DIMENSIONS AND PROTECT ALL EXISTING UTILITIES. LOCATIONS OF EXISTING DEVICES (ALL OF WHICH ARE NOTED) ALL EXISTING FIRE ALARM DEVICES SHALL BE DEMOLISHED.
 3. EXISTING CONDITIONS AND FINISHES MAY BE REVERSED, ALL CORRECTIONS AND DEMOS NOT TO BE REVERSED SHALL BE DEMOLISHED TO THE MAXIMUM EXTENT POSSIBLE.

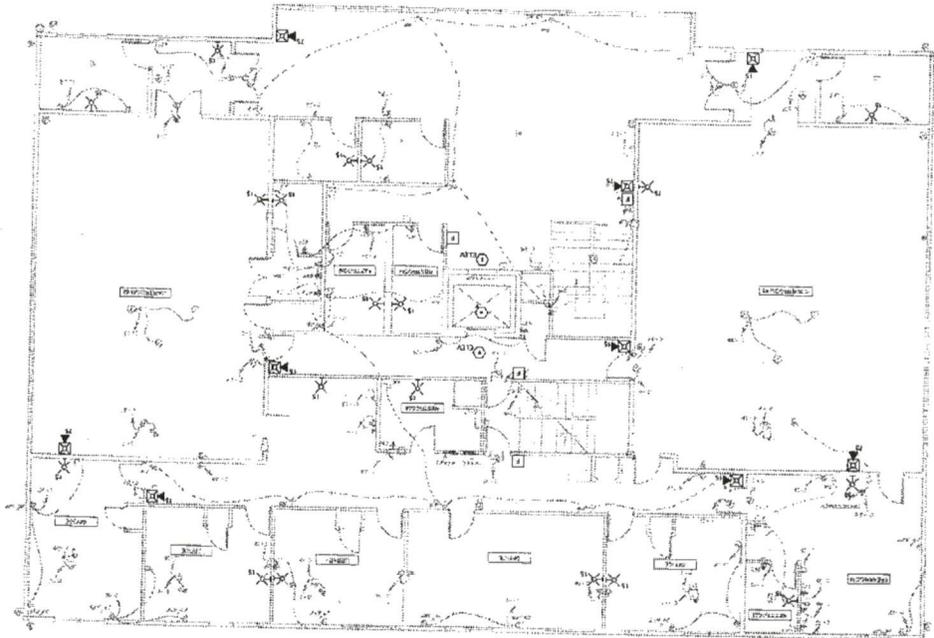


THIRD FLOOR FIRE ALARM DEMO PLAN
SCALE: 1/8" = 1'-0"

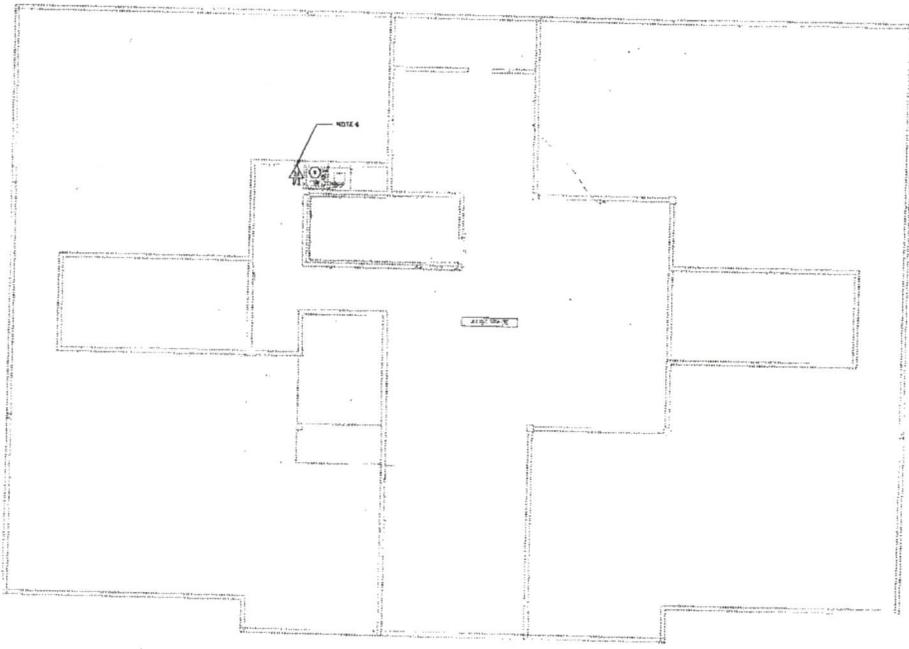
RICHARDSON ARCHITECTS 1000 W. 10th Street, Suite 100 Des Moines, IA 50319 Phone: 515-281-1111		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION	DATE: 11/17/2011 PROJECT: 1127 SHEET: 101 OF 101	FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS - DEPARTMENT OF ADMINISTRATIVE SERVICES
		JOB: 1127 1127 NEW HAMPSHIRE STATE OFFICE 1127 PLAZA - PHASE 10-100	PLYMOUTH THIRD FLOOR FIRE ALARM DEMO PLAN	SHEET NO.: 101 OF 101 DATE: 11/17/2011

STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS DESIGN & CONSTRUCTION DIVISION OF ARCHITECTURE		PROJECT NO. 100-100-100 PROJECT NAME: STATE OF NEW HAMPSHIRE PROJECT LOCATION: STATE HOUSE PROJECT ADDRESS: 100 STATE STREET, CONCORD, NH 03301		DRAWING NO. 100-100-100-100 DRAWING TITLE: SECOND FLOOR FIRE ALARM PLAN DRAWING DATE: 10/10/2010		ARCHITECT: RICHARDSON ARCHITECT ADDRESS: 100 STATE STREET, CONCORD, NH 03301 ARCHITECT PHONE: (603) 271-1000 ARCHITECT FAX: (603) 271-1001	
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SECOND FLOOR FIRE ALARM PLAN



1. ALL ROOMS SHALL BE EQUIPPED WITH SMOKE DETECTORS AS SHOWN ON THIS PLAN.
 2. ALL ROOMS SHALL BE EQUIPPED WITH HEAT DETECTORS AS SHOWN ON THIS PLAN.
 3. ALL ROOMS SHALL BE EQUIPPED WITH MANUAL PULL STATIONS AS SHOWN ON THIS PLAN.
 4. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC SMOKE DETECTORS AS SHOWN ON THIS PLAN.
 5. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC HEAT DETECTORS AS SHOWN ON THIS PLAN.
 6. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC SMOKE AND HEAT DETECTORS AS SHOWN ON THIS PLAN.
 7. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC SMOKE, HEAT AND MANUAL PULL STATIONS AS SHOWN ON THIS PLAN.
 8. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC SMOKE, HEAT, SMOKE AND HEAT DETECTORS AS SHOWN ON THIS PLAN.
 9. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC SMOKE, HEAT, SMOKE AND HEAT DETECTORS AND MANUAL PULL STATIONS AS SHOWN ON THIS PLAN.
 10. ALL ROOMS SHALL BE EQUIPPED WITH PHOTO-ELECTRIC SMOKE, HEAT, SMOKE AND HEAT DETECTORS, SMOKE AND HEAT DETECTORS AND MANUAL PULL STATIONS AS SHOWN ON THIS PLAN.



THIRD FLOOR FIRE ALARM PLAN
SCALE 1/8" = 1'-0"

- NOTE
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 72, NFPA 13, LOCAL CODES AND STANDARDS, AND THE AUTHORITY HAVING JURISDICTION.
 2. REFER TO SHEET 02 FOR LOADS AND ABREVIATIONS, REFER TO SHEET 03 FOR SMOKE SHARPS, REFER TO SHEET 04 FOR DETAILS, AND SEQUENCE OF OPERATIONS BATTIC.
 3. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS UNLESS NOTED OTHERWISE.
 4. DRAWINGS ARE ORGANIZED TO PROVIDE GENERAL LOCATIONS FOR INSTALLATION. COORDINATE THE INSTALLATION WITH FIELD CONDITIONS, OTHER TRADES, AND THE MANUFACTURER OF THE SYSTEM PROVIDED.
 5. SMOKE AND CO DETECTOR SPACING AND LOCATIONS ARE BASED ON THEIR INSTALLATION AND SEATTLE LOCAL CODES AND ORDINANCES. THE FINAL LAYOUT AND SPACING OF DEVICES SHALL BE BASED UPON THE SPACING AND LOCATIONS PROVIDED BY THE MANUFACTURER OF THE ACTUAL DEVICES PROVIDED.
 6. DETERMINE THE LOCATION OF SMOKE DETECTOR TEST OVERHEADS IN THE FIELD WITH THE OFFICE ENGINEER'S ASSISTANCE. TEST OVERHEADS SHALL BE LOCATED WHERE SERVICE, WITH FINAL LOCATION NOTED BY FIELD AS SUFFICIENT.

RICHARDSON INCORPORATED 1000 W. 10TH AVENUE DENVER, CO 80202 303-733-1111		STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION		DESIGN NO. _____ DRAWING NO. _____ SHEET NO. _____		FIRE ALARM REPLACEMENT - MULTIPLE LOCATIONS DEPARTMENT OF ADMINISTRATIVE SERVICES	
		PROJECT NO. _____ DATE: _____		DRAWN BY: _____ CHECKED BY: _____		PROJECT: _____ DATE: _____	

BOND NO. 2362485
10-16-2000, Rev. 7-19-2012

CONTRACT BOND
KNOW ALL MEN BY THESE PRESENTS

That we, GERARD A. LAFLAMME, INC., P.O. Box 5706, Manchester, NH 03108
and Swiss Re Corporate Solutions America Insurance Corporation Contractor as Principal
AGENCY: P.O. Box 511, Concord, NH 03302-0511 are held and firmly bound unto the State of New Hampshire in the sum of Three Hundred Five Thousand Four Hundred
Fifty and No/100ths Dollars (\$305,450.00) as Surety whose mailing is:
to be paid to the said State of New Hampshire or its certain attorney, its successors and assigns, for which payment, well and truly to be made, we bind ourselves, our heirs, executors
and administrators, successors and assigns, jointly and severally, firmly by these presents.

The Conditions of this obligation are that whereas the said Principal has entered into a contract with the State of New Hampshire through its Commissioner of Department of
Administrative Services for Contract 8003660 Fire Alarm Replacements
in the City/Town of Statewide

The Bonds shall guarantee the execution, faithful performance, and completion of the work to be done under the Contract, and payment in full of all bills and accounts for materials
and labor used in the work.

Now the conditions of this obligation is such that if the said Principal and his subcontractors shall well and truly keep and perform all the agreements, terms and conditions in said
contract set forth and specified to be by said Principal kept and performed and shall also pay all lawful taxes and shall also pay all labor performed or furnished, for all equipment
hired, including trucks, for all materials used and for fuels, lubricants, power tools, hardware and supplies purchased by said principal and used in carrying out said contract and for
labor and parts furnished upon the order of said Principal for the repair of equipment used in carrying out said contract, this agreement to make such payment being in compliance with
the requirements of Revised Statutes Annotated 447:16 to furnish security there under and being in fact such security, and if said Principal shall well and truly indemnify and save
harmless said The State of New Hampshire against all claims and suits for damage to person or property arising from carelessness or want of due care, or any act or omission on the
part of said Principal during the performance of said contract; then this obligation shall be void and of no effect; otherwise it shall remain in full force and virtue.

The Principal and Surety further understand and agree (1) that no modification or alteration of said contract shall in any way affect the obligation of the Surety hereunder; (2) that in
case of liabilities not covered by said Revised Statutes Annotated 447:16 but covered by this bond, then the provisions of this bond shall control; and (3) that pursuant to the contract
and law, the Commissioner may withhold moneys under the contract sufficient to cover claims for payment for equipment, material and labor, and the Commissioner may elect to pay
such claims from such moneys."

This bond shall become effective at the same time as the contract annexed hereto for the improvement hereinbefore mentioned.

Signed and sealed this 3rd day of April 20 25

Witness
Attest Paula Cantara
Paula Cantara

GERARD A. LAFLAMME, INC. (SEAL)

By: David Mendzela
Contractor
David J. Mendzela, President

Swiss Re Corporate Solutions America Insurance Corporation (SEAL)

By: Mark J. Stevens
Surety
Mark J. Stevens- Attorney-in-Fact

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

DANIEL E. CHURCH, PAULA J. CANTARA, GARY P. LAPIERRE, RYAN M. STEVENS, MICHAEL P. O'BRIEN
MATTHEW R. BLAISDELL, MARK J. STEVENS and HANNAH ABBOTT

JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

TWO HUNDRED MILLION (\$200,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."



By Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 26TH day of JUNE, 20 24

State of Illinois
County of Cook

SS

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

On this 26TH day of JUNE, 20 24, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SRCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.



Christina Manisco
Notary Public, State of Illinois

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect. IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 3rd day of April, 20 25

Jeffrey Goldberg, Senior Vice President & Assistant Secretary of SRCSAIC and SRCSPIC and WIC

The successful Bidder, at the time of the execution of the contract, must deposit with the Commissioner security in the sum equal to 100 percent of the amount of the contract award. The form of bond shall be that provided by the Department and the surety shall be acceptable to the Commissioner.

IN WITNESS WHEREOF, the parties of this contract have hereunto set their hands and seals as of the day and year first above written.

GERARD A. LAFLAMME, INC.
Contractor

(SEAL)

By: David Mendzela

Title: David J. Mendzela, President

Address: P.O. Box 5706
Manchester, NH 03108

THE STATE OF NEW HAMPSHIRE
By the Commissioner
Department of Administrative Services
duly authorized

Commissioner, Department of Administrative Services

(The following must be executed if contractor is a corporation)

State of New Hampshire

County of Hillsborough

On this the 3rd day of April, 2025, before me

Stephanie Peaslee
(Name of Notary Public or Justice of the Peace) the undersigned Officer, personally

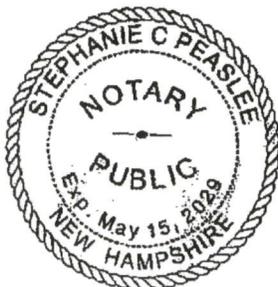
appeared David J. Mendzela who acknowledged to
(Name) be the President of GERARD A. LAFLAMME, INC.

corporation, and as such President being authorized so to by resolution adopted
(Title) April 3, 2025 a copy of which is annexed hereto, executed the foregoing instrument

for the purpose therein contained, by signing the name of the corporation by himself/herself
as President
(Title)

In witness whereof I hereunto set my hand and official seal,

Rev. 5/86



Stephanie Peaslee
Notary Public/Justice of the Peace

State of New Hampshire

Department of State

CERTIFICATE

I, David M. Scanlan, Secretary of State of the State of New Hampshire, do hereby certify that GERARD A. LAFLAMME, INC. is a New Hampshire Profit Corporation registered to transact business in New Hampshire on April 21, 1964. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: 11287

Certificate Number: 0007148698



IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 3rd day of April A.D. 2025.

A handwritten signature in black ink, appearing to read "D. Scanlan", is written over a faint circular stamp.

David M. Scanlan
Secretary of State

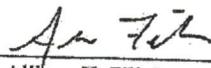
Corporate Resolution

I, Allison K. Fillebrown, hereby certify that I am a duly elected Secretary of GERARD A. LAFLAMME, INC. I hereby certify the following is a true copy of a vote taken at a meeting of the Board of Directors/shareholders, duly called and held on March 25, 2025, at which a quorum of the Directors/shareholders were present and voting.

VOTED: That David J. Mendzela, President is duly authorized to enter into contracts or agreements on behalf of GERARD A. LAFLAMME, INC. with the State of New Hampshire and any of its agencies or departments and further is authorized to execute any documents which may in his/her judgment be desirable or necessary to affect the purpose of this vote.

I hereby certify that said vote has not been amended or repealed and remains in full force and effect as of the date of the contract to which this certificate is attached. This authority remains valid for ninety (90) days from the date of this Corporate Resolution. I further certify that it is understood that the State of New Hampshire will rely on this certificate as evidence that the person(s) listed above currently occupy the position(s) indicated and that they have full authority to bind the corporation. To the extent that there are any limits on the authority of any listed individual to bind the corporation in contracts with the State of New Hampshire, all such limitations are expressly stated herein.

DATED: March 25, 2025

ATTEST: 
Allison K. Fillebrown, Secretary



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/25/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Arthur J. Gallagher Risk Management Services, LLC 45 Constitution Avenue P.O. Box 511 Concord NH 03302-0511		CONTACT NAME: David Ackerman PHONE (A/C, No, Ext): 800-238-3840 E-MAIL ADDRESS: David_Ackerman@ajg.com FAX (A/C, No): 603-224-8012	
INSURED Gerard A Lafamme Inc P O Box 5706 Manchester NH 03108 License#: 0D69293 GERAALA-01		INSURER(S) AFFORDING COVERAGE	
		INSURER A: Firemens Insurance Company of WA, D.C.	NAIC # 21784
		INSURER B: Acadia Insurance Company	NAIC # 31325
		INSURER C:	
		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES

CERTIFICATE NUMBER: 1211479022

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Cyber Liability GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:			CPA5577724-11	12/19/2024	12/19/2025	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 Cyber Liability \$ 100,000
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			CAA5577764-11	12/19/2024	12/19/2025	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0			CUA5577725-11	12/19/2024	12/19/2025	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 PRODUCTS-COMP/OP AGG \$ 10,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	WPA5577726-11	12/19/2024	12/19/2025	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.I. EACH ACCIDENT \$ 1,000,000 E.I. DISEASE - EA EMPLOYEE \$ 1,000,000 E.I. DISEASE - POLICY LIMIT \$ 1,000,000
A	Leased/Rented Equipment Installation Floater			CPA5577724-11	12/19/2024	12/19/2025	LIMIT: LIMIT: \$150,000 \$200,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 Covering electrical operations of the named insured during the policy period. Certificate Holder, Project Owner and their officers, directors, employees and agents are included as additional insureds as respects the general liability, automobile liability and umbrella policies when required by written contract. Waiver of subrogation in favor of the additional insureds applies to all policies, except workers' compensation, when required by written contract. Workers Compensation 3.A. States: NH, ME, VT

CERTIFICATE HOLDER**CANCELLATION**

State of New Hampshire
 Department of Administrative Services
 Bureau of Purchase and Property
 25 Capitol Street, Room 102
 Concord NH 03301

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE