INVITATION FOR BIDS
2008 Webster Elementary School Aluminum Storefront Entrance Replacements

City of Manchester, Department of Highways, Facilities Division
275 Clay Street, Manchester, New Hampshire

Sealed bids will be received at the office of the Department of Highways, Facilities Division of the City of Manchester, New Hampshire on or before **2:00 PM**, prevailing time on the **18th of August, 2008** for the following described services.

School Aluminum Storefront Replacements. FY09-210-17

Contract will include labor and materials as required to replace 3 sets existing aluminum exterior doors in the existing frames and all hardware as specified within this package.

Specifications and proposal forms and drawings for each contract may be obtained at the Project Office at 275 Clay Street Manchester, NH for twenty-five ($25.00) dollars each, or online at

http://www.manchesternh.gov/website/Departments/Purchasing/BidOpportunitiesandResults/tabid/952/Default.aspx

A walk through has been scheduled for **August 8th , 2008 at 4:00 PM** at Webster Elementary School located at 2519 Elm St., 03104

Proposals must be completed on forms provided, which shall be submitted in a sealed envelope marked:

"Proposal Bid for 2008 Webster Elementary School Aluminum Storefront Entrance Replacements"

Addressed and delivered to the Facilities Division not later than the date and time mentioned above, at which time they will be publicly opened and read aloud.

The City of Manchester and its' contractors and consultants shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, disability or national origin. The City and its' contractors and consultants shall take affirmative action to insure the applicants are employed, and the employees are treated during their employment without regard to their race, religion, color, sex, disability or national origin. Such actions shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment, or recruitment advertising; layoff, or termination; rates of pay, or other forms of compensation; in selections of training, including apprenticeship.

The right is reserved to waive any informalities or reject any or all proposals, and to accept the bid that is deemed most favorable to the interest of the City of Manchester.

Questions may be forwarded to:

Christopher Proulx,
Building Program Supervisor
Facilities Division, Department of Highways,
City of Manchester, NH
(603) 624-6555 X-15

City of Manchester
Facilities Division
Department of Public Works
275 Clay Street
Manchester, New Hampshire 03103

Kevin A. Sheppard
Public Works Director

Timothy J. Clougherty
Deputy Public Works Director

ADDENDUM #1

TO: **2008 WEBSTER ELEMENTARY SCHOOL ALUMINUM STORFRONT ENTRANCE REPLACMENTS BIDDERS**

FROM: CHRISTOPHER PROULX

SUBJECT: WALK THROUGH SCHEDULE CHANGE

DATE: 08/05/08

CC: FILE COPY

General Notes

Please note the change in date for the scheduled walk through.

A walk through for all interested bidders will be held on August 8th at 4:00 PM. The walk through will commence at 2519 Elm St. Manchester, NH Webster Elementary School

END OF ADDENDUM #1

PROPOSAL
SPECIFICATIONS

AND

CONTRACT AGREEMENT

FOR

2008 Webster Elementary School Aluminum Storefront Entrance Replacements

CITY OF MANCHESTER, NH
FACILITIES DIVISION
DEPARTMENT OF HIGHWAYS
2008

Kevin A. Sheppard P.E. Public Works Director
Timothy J. Clougherty Deputy Public Works Director

CITY OF MANCHESTER

New Hampshire

Bidding Documents

PROPOSAL

CONTRACT AGREEMENT

GENERAL CONDITIONS

And

TECHNICAL SPECIFICATIONS/DRAWINGS

For

2008 Webster Elementary School Aluminum Storefront Entrance Replacements

July 29th, 2008

Prepared by

CITY OF MANCHESTER, NEW HAMPSHIRE

DEPARTMENT OF HIGHWAYS

FACILITIES DIVISION

TABLE OF CONTENTS

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City of Manchester, Department of Highways, Facilities Division
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http://www.manchesternh.gov/website/Departments/Purchasing/BidOpportunitiesandResults/tabid/952/Default.aspx

A walk through has been scheduled for **August 7th , 2008 at 4:00 PM** at Webster Elementary School located at 2519 Elm St., 03104

Proposals must be completed on forms provided, which shall be submitted in a sealed envelope marked:
"Proposal Bid for 2008 Webster Elementary School Aluminum Storefront Entrance Replacements"
Addressed and delivered to the Facilities Division not later than the date and time mentioned above, at which time they will be publicly opened and read aloud.

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Questions may be forwarded to:

Christopher Proulx,
Building Program Supervisor
Facilities Division, Department of Highways,
City of Manchester, NH
(603) 624-6555 X-15

Prosecution

The Contractor shall be responsible for the disposal of all waste generated by this project.

The Contractor will be responsible for the proper and timely notification to the City should any temporary interruption of their access or services are absolutely necessary.

When working in the vicinity and when the general public is in the building, contractors shall use barriers, versaguards or equivalent to maintain a safety separation.

Contract Documents

In the event of a conflict of interpretation in the Contract Documents, the following is the general order of precedence:

1. Special Contract Requirements*
2. Special Provisions
3. Supplemental General Conditions
4. General Conditions (A205)
5. Supplemental Specifications,
6. Specifications.
7. Drawings

*Includes Prosecution of Work, and Special Attentions.

Contract Period: All work associated with this contract is to be complete on or before August 29, 2008, without exception.

PROPOSAL

2008 Webster Elementary School Aluminum Storefront Entrance Replacements

The City of Manchester acting through its Department of Highways hereinafter called the "Awarding Authority", requests bids for the furnishing of all labor, equipment and materials required for the **2008 Webster Elementary School Aluminum Storefront Entrance Replacements** in accordance with the plans and specifications prepared by the City of Manchester, Facilities Division.

The undersigned as Bidder declares that the only person or parties interested in this proposal as principals are those named herein; that this Proposal is made without collusion with any other firm, that the undersigned has carefully examined the location of the proposed work, the proposed form of contract and the plans and specifications therein referred to, and the undersigned proposes and agrees if this Proposal is accepted, he will contract with the "Awarding Authority" to provide all the necessary labor, machinery, tools, apparatus and other means of construction to do all the work and furnish all the materials specified in the contract in the manner and time therein described and according to the requirements of the Engineer therein set forth and the undersigned will take full payment therefore, the following total prices.

Base Quote:

Total price of this Proposal (for comparison of bids) based on the estimated quantities is:

_____
Total Price in Words

$_____
Total Price in Figures

CONTRACTOR: _____

BY: _____

TITLE: _____

It is agreed that the total price presented above, is to be used solely for the comparison of bids to determine the apparent low bidder.

PROPOSAL

The undersigned agrees that this Bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

This Proposal includes Addenda No.:_____

_____
Contractor (Bidder) (seal)

By: _____
(Signature and Title)

Address: _____

_____

Being a (corporation incorporated)
(Under the laws of the)
(State of _____)
(Partnership,)
(Individual)

Composed of Officers, partners, or
Owner, as follows:

_____

_____

_____

_____

_____

STATEMENT OF UNDERSTANDING

Project Safety

WHEREAS this project is subject to all Safety and Health Regulations as promulgated by the U.S. Department of labor, it shall be a requirement that the Contractor designate a "Safety Officer" who's duty shall be to monitor the project on a daily basis in order to insure that all safety measures alluded to in the contract and otherwise pertinent to this project, are strictly adhered to.

IT IS hereby agreed that responsibility for the above mentioned safety measures is solely that of the Contractor and that _____ has been Designated as the project "Safety Officer".

_____
Date

_____
Contractor

By: _____

Title: _____

GENERAL CONDITIONS
DEFINITIONS AND TERMS

Meaning of Terms. Wherever in these specifications or in other contract documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

Act of God. Unusual, sudden and unexpected manifestation of the forces of nature, the effect of which could not have been prevented by reasonable human foresight, pains and care.

Advertisement. See Invitation for Bids.

Alteration Order (Alteration in Design). An order covering changes in the plans or quantities or both within the scope of the contract establishment the basis of payment and time adjustments for the work affected by the changes.

Award. The acceptance of a proposal by the Department.

Bidder. An individual, partnership, firm, corporation or any combination thereof, or joint venture, submitting a proposal.

Board. The Board of Mayor and Aldermen.

Calendar Day. A day shown on the calendar.

Cement. Unless otherwise designated, this term will refer to Portland Cement.

Change Order. See Alteration Order.

City. The City of Manchester, New Hampshire.

Commissioners. The Commissioners of the Department of Highways.

Complete in Place. All work indicated to be performed as part of the contract item except as may be otherwise specified under the Method of Measurement or Basis of Payment.

Conduit. Unless the connotation is to the contrary, a tube intended to carry electrical or other utilities.

Contract. The written agreement between the City and the Contractor setting forth the obligations of the parties thereunder, including but not limited to the performance of the work and the basis of payment. The contract includes the invitation for bids, proposal, contract form and contract bond, specifications, supplemental notice to proceed, also any change orders and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

Contract Bond. The approved form of security in compliance with RSA 447:16 executed by the Contractor and his Surety or Sureties, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto and the payment of all legal debts pertaining to the construction of the project.

Contract Time. The time allowed for completion of the contract, including authorized time extensions. See 108.07.

Contractor. The individual, partnership, firm, corporation or any combination thereof, or joint venture, contracting with the Department for performance of prescribed work. Said person or persons shall be designated as the party of the second part to the contract.

Day. Unless designated as a working day or unless otherwise indicated, this term will mean a calendar day.

Department. The City of Manchester, New Hampshire, Department of Highways, designated as the party of the first part to the contract.

Director. The Public Works Director of the City of Manchester, New Hampshire Department of Highways.

Engineer. The Chief Engineer of the Department either acting directly or through any duly authorized representatives.

Equipment. All machinery and equipment together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

Expression: By or to the Engineer. In order to avoid cumbersome and confusing repetition of expressions in these specifications, it is hereby provided that any and all of the following words or any form of such words, unless clearly indicated otherwise, shall be understood to be followed by the words "by the Engineer" or "to the Engineer": Accepted, approved, authorized, condemned, considered or deemed necessary, contemplated, designated, determined, directed, disapproved, established, given, indicated, insufficient, ordered, permitted, rejected, required, reserved, satisfactory, specified, sufficient, suitable, suspended, unacceptable, unsatisfactory.

Extra Work. Work not provided for in the contract as awarded but found by the Engineer to be essential to the satisfactory completion of the contract within its intended scope. Such extra work may be performed at bid prices, agreed prices (Supplementary Agreement), or on a force account basis. See 104.03.

Highway. A public way designated for purposes of vehicular travel or vehicular and pedestrian travel, including the entire area within the right-of-way.

Holidays. In the City of Manchester, legal holidays occur:

January 1st (New Year's Day)
The third Monday in February (President's Day)
Civil Right's Day
May (Memorial Day)
July 4th (Independence Day)
The first Monday in September (Labor Day)
The second Monday in October (Columbus Day)
The first Tuesday in November (Election Day)
November (Veteran's Day)
Thanksgiving Day
Christmas Day

Inspector. The Engineer's authorized representative assigned to make detailed inspections of contract performance.

Invitation for Bids. The advertisement for Proposals for Work on which bids are requested. Such advertisement will state the time and place of the opening of Proposals, provide information regarding Plans, Specifications and Proposal forms. and give other data and instructions.

Item Numbers and Section Numbers. In these specifications, items are numbered to correspond to sections. Each item shall be constructed in accordance with the specifications contained in the corresponding section. The section numbers are intended for convenience of reference only and shall not be considered as having any bearing on the interpretation thereof. In case of discrepancy between what the numbers for the items would indicate and the item as written in words, the item written in words shall govern.

Laboratory. Any testing laboratory which may be designated or approved by the Engineer.

Materials. Any substances specified for use in the construction of the project and its appurtenances.

Pavement Structure. The combination of base and surface courses placed on a subgrade to support the traffic load and distribute it to the roadbed.

Plans. The contract drawings or reproductions thereof, which show the location, character, dimensions and details of the prescribed work, including all alterations thereof permissible under the contract and authorized by duly approved written orders.

Prime Contractor. The Contractor as defined above.

Project. The specific area of the work together with all appurtenances to be constructed under the contract.

Proposal. The offer of a Bidder on the proposal form, to perform the prescribed work at the prices quoted.

Proposal Form. The prescribed form on which the Department requires bids to be submitted. See 102.02.

Proposal Guaranty. The security furnished with a bid to guarantee that the Bidder will enter into the contract if his bid is accepted.

Right-of-Way. A general term denoting land, property or interest therein, usually in a strip acquired for or devoted to transportation purposes.

Subcontractor. An individual, partnership, firm, corporation or any combination thereof, or joint venture, to whom the Contractor sublets any part of the contract.

Subsidiary and Subsidiary Item. These terms are used to indicate work for which no direct payment will be made. Such work is considered to be incidental to items having contract prices and the bid prices submitted by the Contractor, shall be sufficient to absorb the cost of all work designated as subsidiary or as subsidiary items.

Superintendent. The Contractor's authorized representative in responsible charge of the work.

Supplemental Specifications. Approved additions and revisions to the Standard Specifications.

Supplementary Agreement. A written agreement executed by the Contractor and the Department covering the performance of work not included in the original contract.

Surety. The corporation, partnership or individual other than the Contractor, executing a bond furnished by the Contractor.

Work. The furnishing of all labor, materials, equipment and incidentals necessary or convenient to the successful completion of the project and the carrying out of the duties and obligations imposed by the contract.

Working Day. A calendar day during which construction operations could proceed for a major part of a shift; normally excludes Saturdays, Sundays and legal holidays recognized by the City.

Working Drawings. Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data which the Contractor is required to submit for approval.

DRAFT

AIA® Document A105™ – 1993

Standard Form of Agreement Between Owner and Contractor for a Small Project

where the Basis of Payment is a STIPULATED SUM

This **AGREEMENT** is made:
(Date)

BETWEEN the Owner:

City of Manchester
Highway Department, Facilities Division
275 Clay Street
Manchester, NH 03103
Telephone Number: 603-624-6554
Fax Number: 603-624-6562

and the Contractor

for the following Project:

The Architect is:

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contractor shall complete the Work described in the Contract Documents for the project. The Contract Documents consist of:

.1 this Agreement signed by the Owner and Contractor;

.2 AIA Document A205, General Conditions of the Contract for Construction of a Small Project, current edition; ; as modified by the City of Manchester and contained in the project manual...3 the Drawings and Specifications prepared by the Architect or Engineer, dated , and enumerated as follows:

Drawings:

Number	Title	Date

Specifications:

Section	Title	Pages

.4 addenda prepared by the Architect as follows:

Number	Date	Pages

.5 written change orders or orders for minor changes in the Work issued after execution of this Agreement; and

.6 other documents, if any, identified as follows:

.7 In absence of an Architect/Engineer, all references to such are assumed by the City of Manchester project rep.

.8 If there are any discrepancies in the documents noted above, the owner will have sole discretion to choose which shall take precedence.

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION DATE

The date of commencement shall be the date of this Agreement unless otherwise indicated below. The Contractor shall substantially complete the Work not later than , subject to adjustment by Change Order.
(Insert the date or number of calendar days after the date of commencement.)

The commencement date will be fixed in a notice to proceed from the City of Manchester.

ARTICLE 3 CONTRACT SUM

§ 3.1 Subject to additions and deductions by Change Order, the Contract Sum is:

($)

§ 3.2 For purposes of payment, the Contract Sum includes the following values related to portions of the Work:

Portion of Work	Value ($ 0.00)
All enumerated documents above	

§ 3.3 The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work.

ARTICLE 4 PAYMENT

§ 4.1 Based on Contractor's Applications for Payment certified by the Architect, the Owner shall pay the Contractor as follows:
(Here insert payment procedures and provisions for retainage, if any.)
4.1.1 Based upon Applications for payment submitted to the Architect by the Contractor and Certificates for Payment

issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided in the Conditions of the Contract as follows:

On or about the fifteenth day of each month ninety percent (90%) of the portion of the Contract Sum properly allocated to labor, materials and equipment incorporated in the Work and ninety percent (90%) of the portion of the Contract Sum properly allocated to materials and equipment suitable stored at the site or at some other location agreed upon in writing by the parties, up to the (10) days prior to the date on which the Application for payment is submitted, less the aggregate of previous payments in each case. The period for the application shall be the 15th of the previous month to the 15th of the current month. Owner shall issue payment on or about the 15th of the following month, provided however, that the Contractor present a Contractor's Application for Payment to the Owner on or before the twenty fifth (5th) day of the month in which the Work is performed. If an Application for Payment is received by the Owner after the date fixed above, Payment shall be made by the Owner not later than 60 days after the Owner receives the Application for payment. The Owner reserves the right to withhold payment if he does not feel substantial proof exists for certification of payment, without penalty.
Until final payment, the Owner will pay ninety percent (90%) of the amount due the Contractor on account of Progress Payments.

§ 4.2 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate of 0 (0%) per annum , or in the absence thereof, at the legal rate prevailing at the place of the Project. *(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Contractor's principal places of business, the location of the Project and elsewhere may affect the validity of this provision.)*

4.3 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when: The Contractor has fully performed the Contract and a final Certificate for Payment has been received and certified by the Owner/Architect. All Contractual obligations must be met in order for final payment to be issued. Including all paperwork, as built and operation/maintenance manuals and documentation.

4.4 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the final Certificate for Payment, or as follows:

ARTICLE 5 INSURANCE

§ 5.1 The Contractor shall provide Contractor's Liability and other Insurance as follows:
(Insert specific insurance required by the Owner.)

INDEMNIFICATION AND INSURANCE REQUIREMENTS

In consideration of the utilization of Contractors services by the City of Manchester and other valuable consideration, the receipt of which is hereby acknowledged, Contractor agrees that all persons furnished by Contractor shall be considered the Contractor's employees or agents and that Contractor shall be responsible for payment of all unemployment, social security and other payroll taxes including contributions from them when required by law.

CONTRACTOR hereby agrees to protect, defend, indemnify and hold the City of Manchester and its employees, agents officers and servants free and harmless from any and all losses, claims, liens, demands and causes of action of every kind and character including but not limited to, the amounts of judgements, penalties, interests, court costs, legal fees and all other expenses including claims, liens, debts, personal injuries including Injuries sustained by employees of the City, death or damages to property, including property of the City and without limitation by enumeration, all other claims or demands of every character occurring or in anyway incident to, in connection with or arising directly out Contractor's negligence or willful misconduct. CONTRACTOR agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suits at the sole expense of the CONTRACTOR.

CONTRACTOR agrees to maintain In full force and effect:

A. Comprehensive General Liability insurance written on occurrence form, including completed operations coverage, personal injury liability coverage, broad form property damage liability coverage and contractual liability coverage insuring the agreements contained herein. The minimum limits of liability carried on such insurance shall be $1,000,000 each occurrence and where applicable, in the aggregate combined single limit for bodily Injury and property damage liability; $1,000,000 annual aggregate personal injury liability.

B. Builders Risk Insurance which shall be written under an all risk policy, with the limits of insurance to equal 100% of the complete value of such addition(s), building(s), or structure(s).

C. Waiver of Occupancy Clause Endorsement, which will enable the City to occupy the facility under construction/renovation during such activity.

D. When a Contract includes the installation of machinery and/or equipment into an existing structure, the above policy must include an endorsement covering same. This includes installation and transit.

E. Automobile liability insurance for owned, no-owned and hired vehicles. The minimum limit of liability carried on such insurance shall be $1,000,000 each accident, combined single limit for bodily injury and property damage.

F. Workers compensation insurance whether or not required by the NH Revised Statutes Annotated, 1955, as amended with statutory coverage and including employer's liability insurance with limits of liability of at least $100,000 each employee and $500,000 per policy year.

G. Any and all deductibles on the above described insurance policies shall be assumed by and be for the ac count of and at the sole risk of Contractor.

H. Insurance companies utilized must be admitted to do business in NH or be on the Insurance Commissioner's list of approved non-admitted companies and shall have a rating of (A) or better, in the current edition of "Best's Key Rating Guide."

I. CONTRACTOR agrees to furnish certificates of the above mentioned insurance to the City of Manchester within fourteen (14) days from the date of this agreement and with respect to the renewals of the current insurance policies, at least thirty (30) days in advance of each renewal date. Such certificates shall name the City of Manchester and the MANCHESTER HIGHWAY DEPARTMENT as an additional insured (does not apply to professional liability) and shall state that in the event of cancellation or material change, written notice shall be given to the City of Manchester, Office of Risk Management, 27 Market St., Manchester, New Hampshire 03101 and the MANCHESTER HIGHWAY DEPARTMENT at least thirty (30) days in advance of such cancellation or change.

J. The purchase of the insurance required or the furnishing of the aforesaid certificate, shall not be a satisfaction of CONTRACTOR'S liability hereunder or in anyway modify the CONTRACTOR'S indemnification responsibilities to the City of Manchester and the MANCHESTER HIGHWAY DEPARTMENT.

K. All subcontractors with respect to this agreement must comport to the same requirements and it will be the responsibility of the Contractor for compliance.

§ 5.3 The Contractor shall obtain an endorsement to its general liability insurance policy to cover the Contractor's obligations under Section 3.12 of AIA Document A205-1993, General Conditions of the Contract for Construction of Small Projects as modified by the City.**§ 5.4** Certificates of insurance shall be provided by each party showing their respective coverages prior to commencement of the Work.

ARTICLE 6 OTHER TERMS AND CONDITIONS

(Insert any other terms or conditions below.)

6.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 11 of AIA Document

A205-1993 as modified by the City.

6.2 The work may be suspended by the Owner as provided in Article 11 of AIA Document A205-1993.

This Agreement entered into as of the day and year first written above.
(If required by law, insert cancellation period, disclosures or other warning statements above the signatures.)

CITY OF MANCHESTER
(SEAL)

The Honorable Mayor of the
CITY OF MANCHESTER

By_____
Frank C. Guinta

Public Works Director
DEPARTMENT OF HIGHWAYS

By_____
Frank C. Thomas, P.E.

Signed and sealed in
presence of:

_____ _____
Date

_____
CONTRACTOR
(SEAL)

By:_____

Title:_____

_____
Federal I.D. No.

Approved as to form and execution

_____
Thomas Clark, City Solicitor

DRAFT

AIA® Document A205™ – 1993

General Conditions of the Contract for Construction of a Small Project

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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DRAFT

AIA® Document A205™ - 1993

General Conditions of the Contract for Construction of a Small Project

for the following PROJECT:
(Name and location or address):

THE OWNER:
(Name and address):
City of Manchester , Municipality
275 Clay Street, Manchester, NH 03103

THE ARCHITECT:
(Name and address):

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 THE CONTRACT

The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written modification.

1.15 The Owner reserves the right to elect not to employ the services of an Architect. If the Owner so chooses, all references to and responsibilities of the "Architect", as referred to throughout the Contract documents, will become responsibility of the Owner.

§ 1.2 THE WORK

The term "Work" means the construction and services required by the Contract Documents, and includes all other labor, materials, equipment and services provided by the Contractor to fulfill the Contractor's obligations.

§ 1.2.1 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.2.2 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.3 INTENT

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all.

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§ 1.3.1 All work mentioned or indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such work is to be done by others. Should the drawing or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of work and/or materials unless otherwise directed by written addendum to the Contract

§ 1.3.2 The Contractor and all Subcontractors shall refer to all of the Drawings, include those showing primarily the work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and shall perform all work reasonably inferable therefrom as being necessary to product the indicated results.

§ 1.3.3 Where codes, standard, requirements and publications of public and private bodies are referred to in the Specifications, references shall be understood to be the latest revision prior to the date of receiving bids, except where otherwise indicated. These standards are not furnished to bidders for the reason that the bidders are assumed to be familiar with their requirements. The Engineer will furnish, upon request, information for obtaining copies of the standards referred to

§ 1.3.4 Where no explicit quality standards for materials or workmanship are established for work, such work is to be of good quality for the intended use and consistent with the quality of the surrounding work and of the construction of the project generally.

§ 1.3.5 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed direction and instruction unless otherwise indicated in the Contract Documents.

§ 1.3.5 The Drawings are generally made to scale, but all working dimensions shall be taken from the figured dimensions, or by actual measurements at the job, in no case by scaling. Study and compare all the Drawings and verity all figures before laying out or constructing work. The Contractor shall be responsible for errors in his work, which might have been avoided thereby. Whether or not an error is believed to exist, deviation from the Drawings and the dimension given thereon shall be made only after approval in writing from the Engineer.

§ 1.3.5 The Mechanical and Electrical Drawings are diagrammatic only and are not intended to show the exact physical location or configurations of work. Such work shall be installed to clear all obstruction, permit proper clearances for the work of other trades, and present an orderly appearance where exposed. Exact locations of fixtures and outlets shall be obtained from the Engineer as provided in Subparagraph 4.2.2 before the work is roughed in; work installed without such information from the Engineer shall be relocated at the Contractor's expense.

§ 1.4 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

~~Documents prepared by the Architect are instruments of the Architect's service for use solely with respect to this project. The Architect shall retain all common law, statutory and other reserved rights, including the copyright. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier for other projects or for additions to this project outside the scope of the Work without the specific written consent of the Owner and Architect.~~ Once paid for the City owns the documents the Architect will forward all documents to the city in AutoCAD format upon completion of such documents.

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ARTICLE 2 OWNER

§ 2.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.1.1 Except for permits and fees which are the responsibility of the Contractor under the Contract Documents, the Owner shall obtain and pay for other necessary approvals, easements, assessments and charges.

§ 2.2 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work which is not in accordance with the Contract Documents, the Owner may direct the Contractor in writing to stop the Work until the correction is made.

§ 2.3 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven day period after receipt of written notice from the Owner to correct such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies, correct such deficiencies. In such case, a Change Order shall be issued deducting the cost of correction from payments due the Contractor.

§ 2.4 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 2.4.1 The Owner reserves the right to perform construction or operations related to the project with the Owner's own forces, and to award separate contracts in connection with other portions of the project.

§ 2.4.2 The Contractor shall coordinate and cooperate with separate contractors employed by the Owner.

§ 2.4.3 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

ARTICLE 3 CONTRACTOR

§ 3.1 EXECUTION OF THE CONTRACT

Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner. Before commencing activities, the Contractor shall: (1) take field measurements and verify field conditions; (2) carefully compare this and other information known to the Contractor with the Contract Documents; and (3) promptly report errors, inconsistencies or omissions discovered to the Architect. The failure by the Contractor to discover any error, inconsistency or omission in the Contract Documents shall not relieve him of the obligation to properly execute and complete the work. The Contractor shall be responsible for verification of field dimensions and conditions and shall furnish such information when requested by the Director.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work.

§ 3.3.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of subcontractors or suppliers for each portion of the Work. The Architect will promptly reply to the Contractor in writing if the Owner or the Architect, after due investigation, has reasonable objection to the subcontractors or suppliers listed.

§ 3.3.3 Where the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures, or indicated or imply that such are to be used on the Work, such mention is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of work implies by the operations described, but that the actual determination of whether or not the described operations may be safely and suitable employed on the Work shall be responsibility of the Contractor, who shall notify the Engineer or Architect in writing of the actual means, methods, techniques, sequences or procedures which will be employed on the Work, if these differ from those mentioned in the Contract Documents. All loss, damage or cost of correcting defective work arising from the employment of any construction means, method or techniques, sequences, or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents, unless the Contractor has given timely notice to the Engineer or Architect in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and the Contractor has been instructed in writing to proceed at the Owner's risk.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work.

§ 3.4.2 The Contractor shall deliver, handle, store and install materials in accordance with manufacturers' instructions.

§ 3.4.3 The Contractor shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The Engineer or Architect may require the Contractor to produce reasonable evidence that the material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the Engineer or Architect, would lead to a reasonable certainty that any material used, or proposed to be used, in the Work meets the requirements of the Contract Documents. All such data shall be furnished at the Contractor's expense. This provision shall not require the Contractor to pay for periodic testing of different batches of the same material unless such testing is specifically required by the Contract Documents to be performed at the Contractor's expense.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that: (1) materials and equipment furnished under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents; (2) the Work will be free from defects not inherent in the quality required or permitted; and (3) the Work will conform to the requirements of the Contract Documents.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes that are legally required when the Contract is executed.

§ 3.7 PERMITS, FEES AND NOTICES

§ 3.7.1 The Contractor shall obtain and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work.

§ 3.7.2 The Contractor shall comply with and give notices required by agencies having jurisdiction over the Work. If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without notice to the Architect and Owner, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs. The Contractor shall promptly notify the Architect in writing of any known inconsistencies in the Contract Documents with such governmental laws, rules and regulations.

§ 3.8 SUBMITTALS

The Contractor shall promptly review, approve in writing and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents. Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

§ 3.9 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits, the Contract Documents and the Owner.

§ 3.10 CUTTING AND PATCHING

The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

§ 3.11 CLEANING UP

The Contractor shall keep the premises and surrounding area free from accumulation of debris and trash related to the Work.

§ 3.12 INDEMNIFICATION

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

ARTICLE 4 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

Where called out as the "Architect" the Owner will be the acting authority when required.

§ 4.1 The Architect will provide administration of the Contract as described in the Contract Documents. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2 The Architect will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the Work.

§ 4.3 The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. The Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

§ 4.4 Based on the Architect's observations and evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor.

§ 4.5 The Architect will have authority to reject Work that does not conform to the Contract Documents.

§ 4.6 The Architect will promptly review and approve or take appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 4.7 The Architect will promptly interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the Owner or Contractor.

§ 4.8 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.9 The Architect's duties, responsibilities and limits of authority as described in the Contract Documents will not be changed without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

ARTICLE 5 CHANGES IN THE WORK

§ 5.1 After execution of the Contract, changes in the Work may be accomplished by Change Order or by order for a minor change in the Work. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 5.2 A Change Order shall be a written order to the Contractor signed by the Owner and Architect to change the Work, Contract Sum or Contract Time.

§ 5.3 The Architect will have authority to order minor changes in the Work not involving changes in the Contract Sum or the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be

written orders and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

§ 5.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be subject to equitable adjustment.

5.5 As mentioned above, the allowance for overhead and profit combined, included in the total cost to the Owner, shall be based on the following schedule:

1. For the Contractor, for any Work performed by the Contractor's own forces, twelve percent (12%) of the cost.
2. For the Contractor, for Work performed by his Subcontractor, eight percent (8%) of the amount due the Subcontractor.
3. For each Subcontractor of Sub-subcontractor involved, for any Work performed by that Contractor's own forces, twelve percent (12%) of the cost.
4. For each Subcontractor, for Work performed by his Sub-subcontractors eight percent (8%) of the amount due the Sub-subcontractor.
5. Cost to which overhead and profit is to be applied shall be "net" cost, which is defined as follows:
    a) The cost of labor directly on the work at the rates actually paid to the workmen.
    b) The cost of Worker's Compensation Insurance, Social Security, and New Hampshire Employment Compensation at established rates.
    c) The reasonable cost of materials incorporated in the work.
    d) The cost of fair market rental rates for equipment employed directly on the work.
    e) The additional cost of the Guaranty Bond.
6. In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will change involving over $1,000.00 be approved without such itemization.
7. No percentage for overhead and profit will be allowed on changes in the work which are set forth as Unit Price items, as the percentage for same shall be included in said unit prices.
8. In planning his construction schedule within the agreed upon Contract time, it shall be assumed that the Contractor has anticipated the amount of adverse weather conditions normal to that of Work for the season(s) of the year involved. Only those weather delays attributable to other than normal weather conditions will be considered by the Owner and Engineer or Architect.

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ARTICLE 6 TIME

§ 6.1 Time limits stated in the Contract Documents are of the essence of the Contract.

§ 6.2 If the Contractor is delayed at any time in progress of the Work by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

ARTICLE 7 PAYMENTS AND COMPLETION

§ 7.1 CONTRACT SUM

The Contract Sum stated in the Agreement, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 7.2 APPLICATIONS FOR PAYMENT

§ 7.2.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the values stated in the Agreement. Such application shall be supported by such data substantiating the Contractor's right to payment as the Owner or Architect may reasonably require and reflecting retainage if provided for elsewhere in the Contract Documents.

§ 7.2.1.1 Until final payment, the Owner will pay ninety percent (90%) of the amount due the Contractor on account of Progress Payments.

§ 7.2.2 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

§ 7.3 CERTIFICATES FOR PAYMENT

The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part.

§ 7.4 PROGRESS PAYMENTS

§ 7.4.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner provided in the Contract Documents. Based upon Applications for payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided in the Conditions of the Contract as follows:

On or about the fifteenth day of each month ninety percent (90%) of the portion of the Contract Sum properly allocated to labor, materials and equipment incorporated in the Work and ninety percent (90%) of the portion of the Contract Sum properly allocated to materials and equipment suitable stored a the site or at some other location agreed upon in writing by the parties, up to the (10) days prior to the date on which the Application for payment is submitted, less the aggregate of previous payments in each case. Owner shall issue payment within twenty (20) days of approved invoice, provided however, that the Contractor present a Contractor's Application for Payment to the Owner on or before the twenty-fifth (25th) day of the month in which the Work is performed.

The Owner reserves the right to withhold payment if he does not feel substantial proof exists for certification of payment, without penalty.

§ 7.4.2 The Contractor shall promptly pay each Subcontractor and material supplier, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such entities' portion of the Work.

§ 7.4.3 Neither the Owner nor the Architect shall have responsibility for the payment of money to a Subcontractor or material supplier.

§ 7.4.4 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the project by the Owner shall not constitute acceptance of Work not in accordance with the requirements of the Contract Documents.

§ 7.5 SUBSTANTIAL COMPLETION

§ 7.5.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.

§ 7.5.2 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish the responsibilities of the Owner and Contractor, and shall fix the time within which the Contractor shall finish all items

on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 7.6 FINAL COMPLETION AND FINAL PAYMENT

§ 7.6.1 Upon receipt of a final Application for Payment, the Architect will inspect the Work. When the Architect finds the Work acceptable and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment.

§ 7.6.2 Final payment shall not become due until the Contractor submits to the Architect releases and waivers of liens, and data establishing payment or satisfaction of obligations, such as receipts, claims, security interests or encumbrances arising out of the Contract.

§ 7.6.3 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 8 PROTECTION OF PERSONS AND PROPERTY

§ 8.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs, including all those required by law in connection with performance of the Contract. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, or by anyone for whose acts the Contractor may be liable.

ARTICLE 9 CORRECTION OF WORK

§ 9.1 The Contractor shall promptly correct Work rejected by the Architect as failing to conform to the requirements of the Contract Documents. The Contractor shall bear the cost of correcting such rejected Work.

§ 9.2 In addition to the Contractor's other obligations including warranties under the Contract, the Contractor shall, for a period of one year after Substantial Completion, correct work not conforming to the requirements of the Contract Documents.

§ 9.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it and the Contractor shall reimburse the Owner for the cost of correction.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 ASSIGNMENT OF CONTRACT

Neither party to the Contract shall assign the Contract as a whole without written consent of the other.

§ 10.2 TESTS AND INSPECTIONS

§ 10.2.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time.

§ 10.2.2 If the Architect requires additional testing, the Contractor shall perform these tests.

§ 10.2.3 The Owner shall pay for tests except for testing Work found to be defective for which the Contractor shall pay.

§ 10.3 GOVERNING LAW

The Contract shall be governed by the law of the place where the project is located.

10.4 MATERIAL SUBSTITUTION

10.4.1 When substitution of a material, system or method of construction is duly approved, but such substitution requires modifications in the Contract Documents, whether relative to that time or to related work, the cost of making the modification shall be borne by the Contractor.

10.4.2. If such substitution requires additional cost in the work of related trades, the Contractor shall bear the cost without penalizing the Owner in any way.

ARTICLE 11 TERMINATION OF THE CONTRACT

§ 11.1 TERMINATION BY THE CONTRACTOR

If the Owner fails to make payment when due or substantially breaches any other obligation of this Contract, following seven days' written notice to the Owner, the Contractor may terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, construction equipment and machinery, including reasonable overhead, profit and damages.

§ 11.2 TERMINATION BY THE OWNER

§ 11.2.1 The Owner may terminate the Contract if the Contractor:

- .1 persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
- .4 is otherwise guilty of substantial breach of a provision of the Contract Documents.

§ 11.2.2 When any of the above reasons exist, the Owner, after consultation with the Architect, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may:

- .1 take possession of the site and of all materials thereon owned by the Contractor;
- .2 finish the Work by whatever reasonable method the Owner may deem expedient.

§ 11.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 11.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 11.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. This obligation for payment shall survive termination of the Contract.

City of Manchester

Department of Highways

Facilities Division

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Deputy Public Works Director

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Chief Facilities Manager

2008 Webster Elementary School Aluminum Storefront Entrance Replacements

1. Remove and dispose of three existing aluminum exterior entrances.
    a. Stair #5 , Stair #6, Lobby 141
2. Install three new 5 style aluminum exterior entrance doors in existing frames. Approximately 6'0x7'0 V.I.F. Per. Spec.
3. Install new aluminum Thresholds per spec.
4. Install keyed removable center mullion. Per spec.
5. Install all ADA NFPA Approved door Hardware per Spec.
6. Cylinders and cores to be provided and install by the contractor Per Spec.
7. Keying to be provided by the City of Manchester.
8. Install and adjust door closures per spec and manufacture requirements.
9. Provide shop drawings and submittals for review prior to final installation
10. Colors to be determined
11. Additional aluminum repairs to existing frames and trim covers to cover existing holes.
12. Tamper proof hardware to be used.

(See Attached spec's and Drawing)

SECTION 08411 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

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.

1.2 SUMMARY

A. This Section includes the following:

1. Exterior and interior aluminum-framed storefronts.

    a. Glazing is retained mechanically with gaskets on four sides.

2. Exterior manual-swing aluminum doors.

B. Related Sections include the following:

1. Division 8 Section "Door Finish Hardware" for hardware to the extent not specified in this Section.
2. Division 8 Section "Glazing" for glazing requirements to the extent not specified in this Section.

1.3 PERFORMANCE REQUIREMENTS

A. General: Provide aluminum-framed systems, including anchorage, capable of withstanding, without failure, the effects of the following:

1. Structural loads.
2. Thermal movements.
3. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
4. Dimensional tolerances of building frame and other adjacent construction.
5. Failure includes the following:

    a. Deflection exceeding specified limits.
    b. Thermal stresses transferred to building structure.
    c. Framing members transferring stresses, including those caused by thermal and structural movements, to glazing.
    d. Glazing-to-glazing contact.
    e. Noise or vibration created by wind and thermal and structural movements.
    f. Loosening or weakening of fasteners, attachments, and other components.
    g. Sealant failure.
    h. Failure of operating units to function properly.

B. Structural Sealant: Capable of withstanding tensile and shear stresses imposed by aluminum-framed systems without failing adhesively or cohesively. Provide sealant that fails cohesively before sealant releases from substrate when tested for adhesive compatibility with each substrate and joint condition required.

1. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
2. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant-to-substrate bond strength exceeds sealant's internal strength.

C. Structural-Sealant Joints: Designed to produce tensile or shear stress in structural-sealant joints of less than 20 psi (138 kPa).

D. Structural Loads:

1. Wind Loads: Provide entrance and storefront systems, including anchorage, capable of withstanding wind-load design pressures calculated according to requirements of authorities having jurisdiction or the American Society of Civil Engineers' ASCE 7, "Minimum Design Loads for Building and Other Structures," 6.4.2 " Analytical Procedure," whichever are more stringent.
2. Seismic Loads: Provide entrance and storefront systems, including anchorage, capable of withstanding the effects of earthquake motions calculated according to requirements of authorities having jurisdiction or ASCE 7, " Minimum Design Loads for Buildings and Other Structures", Section 9, "Earthquake Loads," whichever are more stringent..

E. Deflection of Framing Members:

1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans up to 13 feet 6 inches (4.1 m) and to 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 13 feet 6 inches (4.1 m) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
2. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.

F. Structural-Test Performance: Provide aluminum-framed systems tested according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity but not less than 10 seconds.

G. Windborne-Debris-Impact-Resistance-Test Performance: Provide aluminum-framed systems that pass large and small missile-impact tests and cyclic-pressure tests according to authorities having jurisdiction.

H. Story Drift: Provide aluminum-framed systems that accommodate design displacement of adjacent stories indicated.

1. Design Displacement: According to authorities having jurisdiction.
2. Test Performance: Meeting criteria for passing based on building occupancy type when tested according to AAMA 501.4 at design displacement.

I. Thermal Movements: Provide aluminum-framed systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
2. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.

    a. Test High Exterior Ambient-Air Temperature: That which produces an exterior metal-surface temperature of 180 deg F (82 deg C).
    b. Test Low Exterior Ambient-Air Temperature: -10 deg F (minus 24 deg C).
    c. Test Interior Ambient-Air Temperature: 80 deg F (27 deg C).

J. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).

K. Water Penetration Under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

L. Water Penetration Under Dynamic Pressure: Provide aluminum-framed systems that do not evidence water leakage through fixed glazing and framing areas when tested according to AAMA 501.1 under dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

1. Maximum Water Leakage: According to AAMA 501.1. Water controlled by flashing and gutters that is drained to exterior and cannot damage adjacent materials or finishes is not considered water leakage.

M. Condensation Resistance: Provide aluminum-framed systems with fixed glazing and framing areas having condensation-resistance factor (CRF) of not less than 53 when tested according to AAMA 1503.

N. Average Thermal Conductance: Provide aluminum-framed systems with fixed glazing and framing areas having average U-factor of not more than 0.69 Btu/sq. ft. x h x deg F (3.92 W/sq. m x K) when tested according to AAMA 1503.

O. Sound Transmission: Provide aluminum-framed systems with fixed glazing and framing areas having minimum STC 32 according to ASTM E 413 and an OITC 26 according to ASTM E 1332, as determined by testing according to ASTM E 90.

1.4 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of product indicated.

B. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.

1. Include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
2. Include details of provisions for system expansion and contraction and for draining moisture occurring within the system to the exterior.
3. For entrances, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

E. Fabrication Sample: Of each vertical-to-horizontal intersection of systems, made from 12-inch (300-mm) lengths of full-size components and showing details of the following:

1. Joinery.
2. Anchorage.
3. Expansion provisions.
4. Glazing.
5. Flashing and drainage.

F. Welding certificates.

G. Qualification Data: For Installer and testing agency.

H. Preconstruction Sealant Test Reports: For structural-sealant-glazed systems, compatibility and adhesion test reports from sealant manufacturer indicating that materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with sealants. Include sealant manufacturer's interpretation of test results for sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.

I. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for aluminum-framed systems.

J. Structural-Sealant-Glazing Quality-Control Program: Developed specifically for Project.

K. Structural-Sealant-Glazing Quality-Control Program Reports: Documenting quality-control procedures and verifying results for aluminum-framed systems.

L. Field quality-control test and inspection reports.

M. Maintenance Data: For aluminum-framed systems to include in maintenance manuals.

N. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Capable of assuming engineering responsibility and performing work of this Section and who is acceptable to manufacturer.

1. Engineering Responsibility: Preparation of data for aluminum-framed systems including Shop Drawings based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project and submission of reports of tests performed on manufacturer's standard assemblies.

a. Include structural-sealant-glazing quality-control program development and reporting complying with ASTM C 1401 recommendations including, but not limited to, system material qualification procedures, preconstruction sealant-testing program, and procedures and intervals for system fabrication and installation reviews and checks.

B. Testing Agency Qualifications: An independent agency qualified according to ASTM E 699 for testing indicated.

C. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

D. Preconstruction Sealant Testing: For structural-sealant-glazed systems, perform sealant manufacturer's standard tests for compatibility and adhesion of sealants with each material that will come in contact with sealants and each condition required by aluminum-framed systems.

1. Test a minimum of five samples of each metal, glazing, and other material.
2. Prepare samples using techniques and primers required for installed systems.
3. For materials that fail tests, determine corrective measures required to prepare each material to ensure compatibility with and adhesion of sealants, including, but not limited to, specially formulated primers. After performing these corrective measures on the minimum number of samples required for each material, retest materials.

E. Accessible Entrances: Comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."

F. Welding: Qualify procedures and personnel according to AWS D1.2, "Structural Welding Code--Aluminum."

G. Structural-Sealant Glazing: Comply with recommendations in ASTM C 1401, "Guide for Structural Sealant Glazing."

H. Structural-Sealant Joints: Design reviewed and approved by structural-sealant manufacturer.

I. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockup of typical wall area as shown on Drawings.
2. Field testing shall be performed on mockups according to requirements in Part 3 "Field Quality Control" Article.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating aluminum-framed systems without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.7 WARRANTY

A. Special Assembly Warranty: Manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that deteriorate as defined in this Section within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration caused by thermal movements.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
d. Water leakage through fixed glazing and framing areas.
e. Failure of operating components to function properly.

2. Warranty Period: Two years from date of Substantial Completion or manufacturers standard period, whichever is longer.

B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering.

1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

C. Basis-of-Design Product: The design for aluminum-framed systems is based on Tubelite. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:

1. Kawneer.
2. Tubelite Inc.
3. United States Aluminum.

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Sheet and Plate: ASTM B 209 (ASTM B 209M).
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
3. Extruded Structural Pipe and Tubes: ASTM B 429.
4. Structural Profiles: ASTM B 308/B 308M.
5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.

B. Steel Reinforcement: With manufacturer's standard corrosion-resistant primer complying with SSPC-PS Guide No. 12.00 applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.3 FRAMING SYSTEMS

A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Framing members are composite assemblies of two separate extruded-aluminum components permanently bonded by an elastomeric material of low thermal conductance.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
2. Reinforce members as required to receive fastener threads.
3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.

D. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.

E. Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials. Form exposed flashing from sheet aluminum finished to match framing and of sufficient thickness to maintain a flat appearance without visible deflection.

F. Framing System Gaskets and Sealants: Manufacturer's standard recommended by manufacturer for joint type.

G. Doors are to be half-light at the top with solid insulated panels at the bottom. Panels are to be as follows: 1" thick Omega Panel with 0.05" anodized aluminum faces (each side), 1/8" hardboard stablizer (each side) and 3/4" insulated foam core.

2.4 GLAZING SYSTEMS

A. Glazing: Provide exterior door units with double glazed insulated units with airspace. Both lites are to be constructed of safety glass, unless otherwise noted.

B. Glazing Gaskets: Manufacturer's standard compression types, replaceable, molded or extruded, that maintain uniform pressure and watertight seal.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric types.

D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

E. Glazing Sealants: For structural-sealant-glazed systems, as recommended by manufacturer for joint type and as follows:

1. Structural Sealant: ASTM C 1184, neutral-curing silicone formulation compatible with system components with which it comes in contact, specifically formulated and tested for use as structural sealant, and approved by structural-sealant manufacturer for use in aluminum-framed systems indicated.

   a. Color: Black.

2. Weatherseal Sealant: ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O; neutral-curing silicone formulation compatible with structural sealant and other

system components with which it comes in contact; and recommended by structural- and weatherseal-sealant and aluminum-framed system manufacturers for this use.

a. Color: Matching structural sealant.

2.5 DOORS

A. Doors: Manufacturer's standard glazed doors, for manual swing operation.

1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch-(3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deep penetration, fillet welded with concealed tie rods. All metal corner joints are to be continuously welded regardless of construction type.

2. Door Design: Wide stile; 5-inch (127-mm) vertical stiles, middle and top rail, 10 inch bottom rail.

a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.

3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.

a. Provide nonremovable glazing stops on outside of door.

B. Door Hardware: As specified in Division 8 Section "Door Hardware."

2.6 DOOR HARDWARE

A. General: Provide heavy-duty units in sizes and types recommended by entrance system and hardware manufacturers for entrances and uses indicated.

1. Refer to section 08711 "Finish Hardware" for a compete list of acceptable products.

2. Hardware is to be, at a minimum, coordinated with this section.

3. To ensure preparation under controlled conditions, all doors and frames are to be factory prepped for specified hardware.

2.7 ACCESSORY MATERIALS

A. Insulating Materials: As specified in Division 7 Section "Building Insulation."

B. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 7 Section "Joint Sealants."

C. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil (0.762-mm) thickness per coat.

2.8 FABRICATION

A. Form aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Means to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.
4. Physical and thermal isolation of glazing from framing members.
5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
6. Provisions for field replacement of glazing from interior.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Mechanically Glazed Framing Members: Fabricate for flush glazing (without projecting stops).

E. Structural-Sealant-Glazed Framing Members: Include accommodations for using temporary support device (dutchman) to retain glazing in place while structural sealant cures.

F. Storefront Framing: Fabricate components for assembly using head-and-sill-receptor system with shear blocks at intermediate horizontal members.

G. Door Frames: Reinforce as required to support loads imposed by door operation and for installing hardware.

1. At exterior doors, provide compression weather stripping at fixed stops.
2. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frames and two silencers on head of frames for pairs of doors.

H. Doors: Reinforce doors as required for installing hardware.

1. At pairs of exterior doors, provide sliding weather stripping retained in adjustable strip mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

I. Hardware Installation: Factory install hardware to the greatest extent possible. Cut, drill, and tap for factory-installed hardware before applying finishes.

J. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.9 ALUMINUM FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

C. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 611.

D. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

E. Class II, Color Anodic Finish: AA-M12C22A32/A34 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, integrally colored or electrolytically deposited color coating 0.010 mm or thicker) complying with AAMA 611.

F. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.

1. Color: As selected by Architect from full range of industry colors and color densities.

2.10 SOURCE QUALITY CONTROL

A. Structural-Sealant-Glazed Systems: Perform quality-control procedures complying with ASTM C 1401 recommendations including, but not limited to, system material qualification procedures, sealant testing, and system fabrication reviews and checks.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
6. Seal joints watertight, unless otherwise indicated.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Set continuous sill members and flashing in full sealant bed as specified in Division 7 Section "Joint Sealants" and to produce weathertight installation.

E. Install components plumb and true in alignment with established lines and grades, without warp or rack.

F. Install glazing as specified in Division 8 Section "Glazing."

1. Structural-Sealant Glazing:

a. Prepare surfaces that will contact structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.
b. Install weatherseal sealant according to Division 7 Section "Joint Sealants" and according to sealant manufacturer's written instructions to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.

G. Entrances: Install to produce smooth operation and tight fit at contact points.

1. Exterior Entrances: Install to produce tight fit at weather stripping and weathertight closure.
2. Field-Installed Hardware: Install surface-mounted hardware according to hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

H. Install insulation materials as specified in Division 7 Section "Building Insulation."

I. Install perimeter joint sealants as specified in Division 7 Section "Joint Sealants" and to produce weathertight installation.

J. Erection Tolerances: Install aluminum-framed systems to comply with the following maximum tolerances:

1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
2. Alignment:

   a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch (1.5 mm).
   b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch (0.8 mm).

3. Diagonal Measurements: Limit difference between diagonal measurement to 1/8 inch (3 mm).

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Testing Services: Testing and inspecting of representative areas to determine compliance of installed systems with specified requirements shall take place as follows and in successive stages as indicated on Drawings. Do not proceed with installation of the next area until test results for previously completed areas show compliance with requirements.

1. Structural-Sealant Compatibility and Adhesion: Structural sealant shall be tested according to recommendations in ASTM C 1401.

   a. Destructive test method, Method A, Hand Pull Tab (Destructive) in ASTM C 1401, Appendix X2 shall be used.

      1) A minimum of two areas on each building face shall be tested.
      2) Repair installation areas damaged by testing.

2. Structural-Sealant Glazing Inspection: After installation of aluminum-framed systems is complete, structural-sealant glazing shall be inspected and evaluated according to ASTM C 1401 recommendations.
3. Air Infiltration: Areas shall be tested for air leakage of 1.5 times the rate specified for laboratory testing under Part 1 "Performance Requirements" Article, but not more than 0.09 cfm/sq. ft. (0.03 L/s per sq. m), of fixed wall area when tested according to ASTM E 783 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).
4. Water Penetration: Areas shall be tested according to ASTM E 1105 at a minimum uniform and cyclic static-air-pressure difference of 0.67 times the static-air-pressure difference specified for laboratory testing under Part 1 "Performance Requirements" Article, but not less than 4.18 lbf/sq. ft. (200 Pa), and shall not evidence water penetration.
5. Water Spray Test: Before installation of interior finishes has begun, a minimum area of 75 feet (23 m) by 1 story of aluminum-framed systems designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.

C. Repair or remove work where test results and inspections indicate that it does not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.4 ADJUSTING

A. Entrances: Adjust operating hardware for smooth operation according to hardware manufacturers' written instructions.

1. For doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches (75 mm) from the latch measured to the leading door edge.

3.5 DOOR HARDWARE SCHEDULE

Refer to section 08710 Finish Hardware.

END OF SECTION 08411

SECTION 08711 - DOOR HARDWARE (SCHEDULED BY NAMING PRODUCTS)

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.

1.2 SUMMARY

A. This Section includes the following:

1. Furnish and deliver all finish hardware necessary for all doors, also hardware as specified herein and as enumerated in hardware sets and as indicated and required by actual conditions at the building. The hardware shall include the furnishing of all necessary screws, bolts, expansion shields, drop plates and all other devices necessary for the proper application of the hardware.

B. Related Sections include the following:

1. Division 6 Section " Finish Carpentry"
2. Division 8 Section "Flush Wood Doors" for astragals provided as part of a fire-rated labeled assembly.
3. Division 8 Section " Hollow Metal Doors and Frames"
4. Division 8 Section "Glass and Glazing"
5. Division 8 Section "Access Doors" for access door hardware, except cylinders.
6. Division 8 Section "Aluminum Entrances and Storefronts" for entrance door hardware, except cylinders.
7. Division 16 Section " Electrical"

C. Specific Omissions: Hardware for the following is specified or indicated elsewhere, unless specifically listed in the hardware sets.

1. Windows
2. Cabinets of all kinds, including open wall shelving and locks.
3. Signs, except as noted.
4. Toilet accessories of all kinds including coat hooks.
5. Overhead doors (except cylinders where scheduled).

1.3 REFERENCES

A. Applicable state and local building codes.

B. NFPA – National Fire Protection Association

1. NFPA 80 – Standard for Fire Doors and Fire Windows

2. NFPA 101 – Life Safety Code
3. NFPA 105 – Smoke and Draft Control Door Assemblies

C. UL – Underwriters Laboratories

1. UL 10B – Fire Tests of Door Assemblies
2. UL 305 – Panic Hardware

D. ICC (CABO)/ANSI A117.1 – Accessible and Usable Buildings and Facilities

E. ADA – Americans with Disabilities Act

F. DHI – Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware

G. ANSI – American National Standards Institute

1. ANSI/BHMA A156.1 – A165.24 – Standards for the Hardware and Specialties

1.4 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 requirements.

B. Catalog Cuts: Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

C. Final Hardware Schedule Content: Organize schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:

1. Type, style, function, size, and finish of each hardware item.
2. Name and manufacturer of each item.
3. Fastenings and other pertinent information.
4. Location of each hardware set cross-referenced to indications on Drawings.
5. Explanation of all abbreviations, symbols, and codes contained in schedule.
6. Mounting locations for hardware.
7. Door and frame sizes and materials.
8. Name and phone number for the local manufacturer's representative for each product.

D. Key Schedule: After a keying meeting between representatives of the Owner, Architect, hardware supplier, and, if requested, the representative for the lock manufacturer, provide a keying schedule, listing the levels of keying, as well as an explanation of the key system's function, the key symbols used, and the door numbers controlled.

E. Samples: If requested by the Architect, submit samples of each type of exposed hardware unit in the finish indicated, and tagged with a full description for coordination with the schedule.

1. Samples will be returned to the supplier in like-new condition. Units that are acceptable to the Architect may, after final check of operations, be incorporated into the Work, within limitations of key coordination requirements.

F. Templates: After final approval of the hardware schedule, provide templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware.

G. Wiring Diagrams: After final approval of the hardware schedule, submit wiring diagrams as required for the proper installation of all electrical, electromechanical, and electromagnetic products.

1.5 QUALITY ASSURANCE

A. Substitutions: Products are to be those specified to ensure a uniform basis of acceptable materials. Requests for substitutions must be made in accordance with Division 1 requirements. If proposing a substitute product, submit product data for the proposed item with product data for the specified item and indicate basis for substitution and savings to be made. Provide sample if requested. Certain products have been selected for their unique characteristics and particular project suitability.

1. Items specified as "no substitution" shall be provided exactly as listed.
2. Items listed with no substitute manufacturers listed have been requested by the Owner or Architect to match existing for continuity and/or future performance and maintenance standards or because there is no know equal product.
3. If no other products are listed in a category, then "no substitution" is implied.

B. Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Supplier Qualifications: A recognized architectural hardware supplier, with warehousing facilities in the Project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an accredited Architectural Hardware Consultant (AHC), who is available to the Owner, Architect, and Contractor, at reasonable times during the course of the Work for consultation.

D. Single Source Responsibility: Obtain each type of hardware (latch and locksets, hinges, closers, etc.) from a single manufacturer.

E. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by Underwrites Laboratories, Intertek Testing Services, Factory Mutual, or other testing and inspecting organizations acceptable to the authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

F. Electronic Security Hardware: When electrified hardware is included in the hardware specification, the hardware supplier must employ an individual knowledgeable in electrified components and systems, who is capable of producing wiring diagrams and consulting as

needed. Coordinate installation of the electronic security hardware with the Architect and electrical engineers and provide installation and technical data to the Architect and other related subcontractors. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Tag each item or package separately with identification related to the final hardware schedule, and include installation instructions with each item or package.

B. Each article of hardware shall be individually packaged in manufacturer's original container.

C. Contractor will provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses.

D. Items damaged in shipment shall be replaced promptly and with proper material.

E. All hardware shall be handled in a manner to avoid damage, marring, or scratching. Any irregularities that occur to the hardware after it has been delivered to the Project shall be corrected, replaced, or repaired by the Contractor. All hardware shall be protected against malfunction due to paint, solvent, cleanser, or any chemical agent.

1.7 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of operators and door hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

C. Provide manufacturer's warrantees as follows:

1. Closers: 10 years, except electronic closers, 2 years.
2. Exit Devices: 3 years, except electrified devices, 1 year.
3. Hinges: Life of the building.
4. Continuous Hinges: 10 years.
5. All other hardware: 1 year.

D. No liability is to be assumed where damage or faulty operation is due to improper installation, improper use, or abuse.

E. Products judged to be defective during the warranty period shall be replaced or repaired in accordance with the manufacturer's warranty, at no additional cost to the Owner.

1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Approval of manufacturers other than those listed shall be in accordance with paragraph 1.05.A.

B. Note that even though an acceptable substitute manufacturer may be listed, the product must provide all the functions and features of the specified product or it will not be approved.

Item	Scheduled Manufacturer	Acceptable Substitute
Hinges	Stanley (STA)	McKinney, Hager
Continuous Hinges	Roton (ROT)	No Substitution
Locksets & Deadlocks	Schlage (SCH) or Corbin Russwin	No Substitution
Cylinders & Keying	Schlage (SCH)	No Substitution
Exit Devices & Mullions	Von Duprin (VON)	No Substitution
Door Closers	LCN (LCN)	No Substitution
Push & Pull Plates & Bars	Ives (IVE)/Rockwood (ROC)	Hager, Burns
Flush Bolts & Coordinators	Ives (IVE)	GJ, Rockwood
Protection Plates	Ives (IVE)	Hager, Rockwood
Stops & Holders	Ives (IVE)	GJ, Rockwood
Overhead Stops	Glynn-Johnson (GLY)	Sargent, Rixson
Silencers	Ives (IVE)	GJ, Rockwood
Thresholds & Weatherstrip	National Guard (NGP)	Pemko, Reese
Key Cabinets	Telkee (TEL)	Lund, HPC
Magnetic Holders	LCN (LCN)	Rixson, ABH

C. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.

D. Where the hardware specified is not adaptable to the finished shape or size of the members requiring hardware, furnish suitable types having the same operation and quality as the type specified, subject to the Architect's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent that no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of reinforcing the work adequately to fasten the hardware securely.
4. All hardware shall be installed with the fasteners provided by the hardware manufacturer.
5. All field-installed fasteners are to be secured with #242 "Blue" Locktite adhesive.

B. Hinges

1. The following is a guide for hinge type required for this specification:

   a. 1 3/4" thick doors up to and including 3'-0" wide:
      exterior: heavy duty weight, continuous hinge
      interior: standard weight, concealed bearing, steel, 4 1/2" high
   b. 1 3/4" thick doors over 3'-0" wide:
      exterior: heavy duty weight, continuous hinge
      interior: heavy weight, concealed bearing, steel, 5" high

2. Provide 3 hinges per door leaf for doors 90 inches or less in height, and one additional hinge for each 30 inches of additional door height.

3. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Interior Doors: Non-rising pins

4. The width of hinges shall be 4 1/2" or as required for clearance.

C. Continuous Hinges

1. Provide heavy duty continuous hinges fabricated from stainless steel or extruded aluminum as scheduled.

2. Provide split nylon bearings or stainless steel bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.

3. Hinges shall be capable of supporting door weights up to 600 pounds, and shall be successfully tested for 1,500,000 cycles.

4. On fire-rated doors, provide steel or stainless steel continuous hinges that are classified for use on rated doors by a testing agency acceptable to the authority having jurisdiction.

5. Install hinges with fasteners supplied by manufacturer. Hole pattern shall be symmetrically patterned.

D. Flush Bolts

1. Automatic and manual flush bolts shall have forged bronze face plates with extruded brass levers and with wrought brass guides and strikes. Flush bolts for hollow metal doors shall be extension rod type, and wood doors shall have corner-wrap type. Hollow metal doors up to 7'-6" in height shall have 12" steel or brass rods. Manual flush bolts for doors over 7'-6" in height shall be increased by 6" for each additional 6" of door height. Provide dustproof strikes where scheduled.

E. Coordinators

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide a bar-type coordinating device, surface applied to the underside of the stop at the frame head.

2. Finish of the coordinator to be prime coat to receive the same finish paint as the door frame.

3. Provide a filler bar of the correct length for the unit to span the entire width of the opening, and appropriate brackets for parallel arm door closers and surface vertical rod exit device strikes. Factory-prep coordinators for vertical rod devices if required.

F. Mortise Locks (New Construction, Cylindrical locks are acceptable for retrofit applications)

1. Mortise locks shall be certified as ANSI A156.13, Grade 1 Operational, Grade 1 Security, and shall be manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Lock case shall be multi-function and field reversible for handing without opening the case.

2. Locks are to have a standard 2 3/4" backset with a full 3/4" throw 2-piece stainless steel mechanical anti-friction latchbolt. Deadbolt shall be a full 1" throw, constructed of stainless steel.

3. Lever trim shall be solid brass, bronze, or stainless steel, cast or forged in the design specified, with wrought roses and external lever spring cages. Levers shall be thru-bolted to assure proper alignment, and shall have a 2-piece spindle. Lever trim on the secure side of doors serving rooms considered by the authority having jurisdiction to be hazardous shall have a tactile warning. Lever design shall match existing or shall be chosen by Owner.

4. Provide vandal-resistant levers that will travel to a 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.

5. Locks meeting this specification: Schlage L9000 series, or Corbin Russwin ML2000-NSM-626, both must be vandal proof, no substitution.

G. Exit Devices

1. Exit devices shall be touchpad type, fabricated of brass, bronze, stainless steel, or aluminum, plated to the standard architectural finishes to match the balance of the door hardware.

2. All exit devices shall incorporate a fluid damper or other device which eliminates noise associated with exit device operation. Touchpad shall extend a minimum of one half of the door width. End-cap will have two-point attachment to door. Touch-pad shall match exit device finish, and shall be stainless steel for US26, US26D, US28, US32, and US32D finishes. Only compression springs will be used in devices, latches, and outside trims or controls.

3. All devices to incorporate a security deadlatching feature.

4. Provide roller strikes for all rim and surface mounted vertical rod devices, ASA strikes for mortise devices, and manufacturer's standard strikes for concealed vertical rod devices.

5. Mechanism case shall sit flush on the face of all flush doors, or spacers shall be furnished to fill gaps behind devices. Where glass trim or molding projects off the face of the door, provide glass bead kits.

6. All non-fire-rated exit devices shall have hex key dogging.

7. Removable mullions shall be of aluminum tube construction. Where scheduled, mullion shall be of a type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.

8. Where lever handles are specified as outside trim for exit devices, provide heavy duty lever trims with forged or cast escutcheon plates. Where lever operators are scheduled, provide vandal-resistant levers that will travel to a 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set. Lever style will match the lever style of the locksets.

9. Exit devices shall be UL listed panic exit hardware. All exit devices for fire rated openings shall be UL labeled fire exit hardware.

10. Provide electrical options as scheduled.

11. Exit devices shall be successfully cycle-tested and certified for 1 million cycles by an independent testing laboratory.

12. Exit devices meeting this specification: Von Duprin 99 series, no substitution.

H. Door Closers

1. Door closers shall have fully hydraulic, full rack and pinion action with a high strength cast iron cylinder. Cylinder body shall be 1 1/2" in diameter, and double heat-treated pinion shall be 11/16" in diameter.

2. Hydraulic fluid shall be of a type requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F. Fluid shall be fireproof and shall pass the requirements of the UL10C "positive pressure" fire test.

3. Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force for the physically handicapped. Hydraulic regulation shall be by tamper-proof, non-critical valves. Closers shall have separate adjustment for latch speed, general speed, and backcheck.

4. All closers shall have solid forged steel main arms (and forged forearms for parallel arm closers).

5. Closers shall not incorporate a pressure relief valve.

6. All closers shall have metal covers.

7. Closer cylinders, arms, and metal covers shall have a powder coating finish which has been certified to exceed 100 hours salt spray testing by an independent testing laboratory used by BHMA for ANSI certification. For metal components that can't be powder coated, a special rust inhibiting finish (SRI) must be used.

8. Door closers shall be successfully cycle-tested and certified for 10 million cycles by an independent testing laboratory.

9. Door closers shall be equipped with parallel arms.

10. Door closers meeting this specification: LCN 4040/4041 series, no substitution.

I. Push Plates: 8" wide x 16" high x .050" thick. Where door stile does not allow 8" wide plates, 4" wide plates may be used.

J. Door Pulls & Push Bars: Solid bar stock, diameter and length as scheduled. Push bars shall be of sufficient length to span from center to center of each stile.

K. Protection Plates: Provide kick, mop, or armor plates as scheduled, with 4 beveled edges. Furnish with machine or wood screws, finished to match plates. Sizes of plates shall be as follows:

1. Kick Plates - 8" high x 2" LWOD on single doors, 1" LWOD on pairs

2. Mop Plates - 4" high x 2" LWOD on single doors, 1" LWOD on pairs

3. Armor Plates - 36" high x 2" LWOD on single doors, 1" LWOD on pairs

L. Door Stops and Holders

1. It shall be the responsibility of the hardware supplier to provide door stops for all doors in accordance with the following requirements:

a. Wall stops shall be used wherever possible.
b. Where wall stops cannot be used, provide dome type floor stops of the proper height.
c. At any opening where a wall or floor stop cannot be used, a heavy duty overhead stop must be used.

M. Thresholds and Weatherstrip: Furnish. Match finish of other items as closely as possible. Provide only those units where resilient or flexible seal strip is easily replaceable and readily available.

N. Silencers: "Push-in" type silencers for each hollow metal or wood frame, 3 for each single frame, 2 for each pair frame. Omit where gasketing is scheduled.

O. Magnetic Holders: Provide wall- or floor-mounted electromagnetic door release with a minimum of 25 pounds of holding force, and a positive release button to initiate the closing motion. Projection of holder and armature must be coordinated with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Where magnetic holders are used on fire-rated doors, they must be wired into the fire control panel for fail-safe operation.

2.3 FINISHES

A. With the exception of all items listed below, the finish of all hardware shall be US28 – lacquered and anodized aluminum.

B. Exceptions are as follows:

1. Aluminum Continuous Hinges - clear anodized aluminum.
2. Door Closers - aluminum powder coat finish.
3. Removable Mullions & Coordinators - prime painted.
4. Magnetic Holders - aluminum painted finish.
5. Thresholds & Weatherstrip - clear anodized or mill finish aluminum.
6. Silencers - grey.

2.4 KEYING

A. All locks and cylinders shall be master keyed per the Owner's instructions to the Owner's restricted keyway system.

B. All cylinders shall be Schlage Everest D family of patented restricted keyways. Cylinders for all doors shall be equipped with interchangeable core cylinders, permanently "side stamped" with keying designation. All keys shall be permanently stamped with keying designation as well.

C. Provide 3 keys per individual lock, and a total of 6 master keys for each group.

D. All master keys shall be delivered directly to the Owner by the hardware supplier, who shall obtain a receipt for delivery of same.

2.5 KEY CONTROL SYSTEM

A. Provide a key control system for each location, school, or building included in the project. The control system is to include envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of the number of locks required for each location within the Project.

1. Provide complete cross index system set up by the hardware supplier, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
2. Provide hinged-panel type cabinet for wall mounting.
3. Mount in location as directed by the Owner or Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, and other conditions affecting performance.

B. Prior to installation of any hardware, examine all doors, frames, walls and floors and related items for conditions that would prevent proper installation of finish hardware. Correct all defects prior to proceeding with installation.

C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. A pre-installation meeting shall be held to instruct installers on proper installation and adjustment of finish hardware. Representatives of each major hardware category shall be present if requested. Provide at least 10 days notice to representatives.

B. All hardware will be installed by qualified tradesmen, skilled in the application of commercial grade hardware. For technical assistance if necessary, installers may contact the manufacturer's rep for the item in question, as listed in the hardware schedule.

C. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.

D. Install each hardware item in compliance with the manufacturer's instructions and recommendations, using only the fasteners provided by the manufacturer.

E. Do not install surface mounted items until finishes have been completed on the substrate. Protect all installed hardware during painting.

F. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

G. All operating parts shall move freely and smoothly without binding, sticking, or excessive clearance.

H. For retrofit applications provide all necessary "trim" to provide a neat and clean installation, hiding all previous door prep holes etc.

3.3 FIELD QUALITY CONTROL

A. Prior to Substantial Completion, the installer, accompanied by representatives of the manufacturers of latchsets and locksets, door control devices, and of other major hardware suppliers, shall perform the following work:
1. Examine and re-adjust each item of door hardware as necessary to restore function of doors and hardware to comply with specified requirements.
2. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures.
3. Replace hardware items that have deteriorated or failed due to faulty design, materials, or installation of hardware units.
4. Prepare a written report of current and predictable problems of substantial nature in the performance of the hardware.

3.4 ADJUSTING, CLEANING AND DEMONSTRATING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended.

B. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make a final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

C. Clean adjacent surfaces soiled by hardware installation.

D. Instruct Owner's personnel in the proper adjustment, lubrication, and maintenance of door hardware and hardware finishes.

3.5 PROTECTION

A. Provide for the proper protection of all items of hardware until the Owner accepts the project as complete. Damaged or disfigured hardware shall be replaced or repaired by the responsible party.

3.6 HARDWARE SCHEDULE

A. Provide hardware for each door to comply with requirements of Section "Finish Hardware," hardware set numbers indicated in door schedule, and in the following schedule of hardware sets.

B. It is intended that the following schedule includes all items of finish hardware necessary to complete the work. If a discrepancy is found in the schedule, such as a missing item, improper hardware for a frame, door or fire codes, the preamble will be the deciding document.

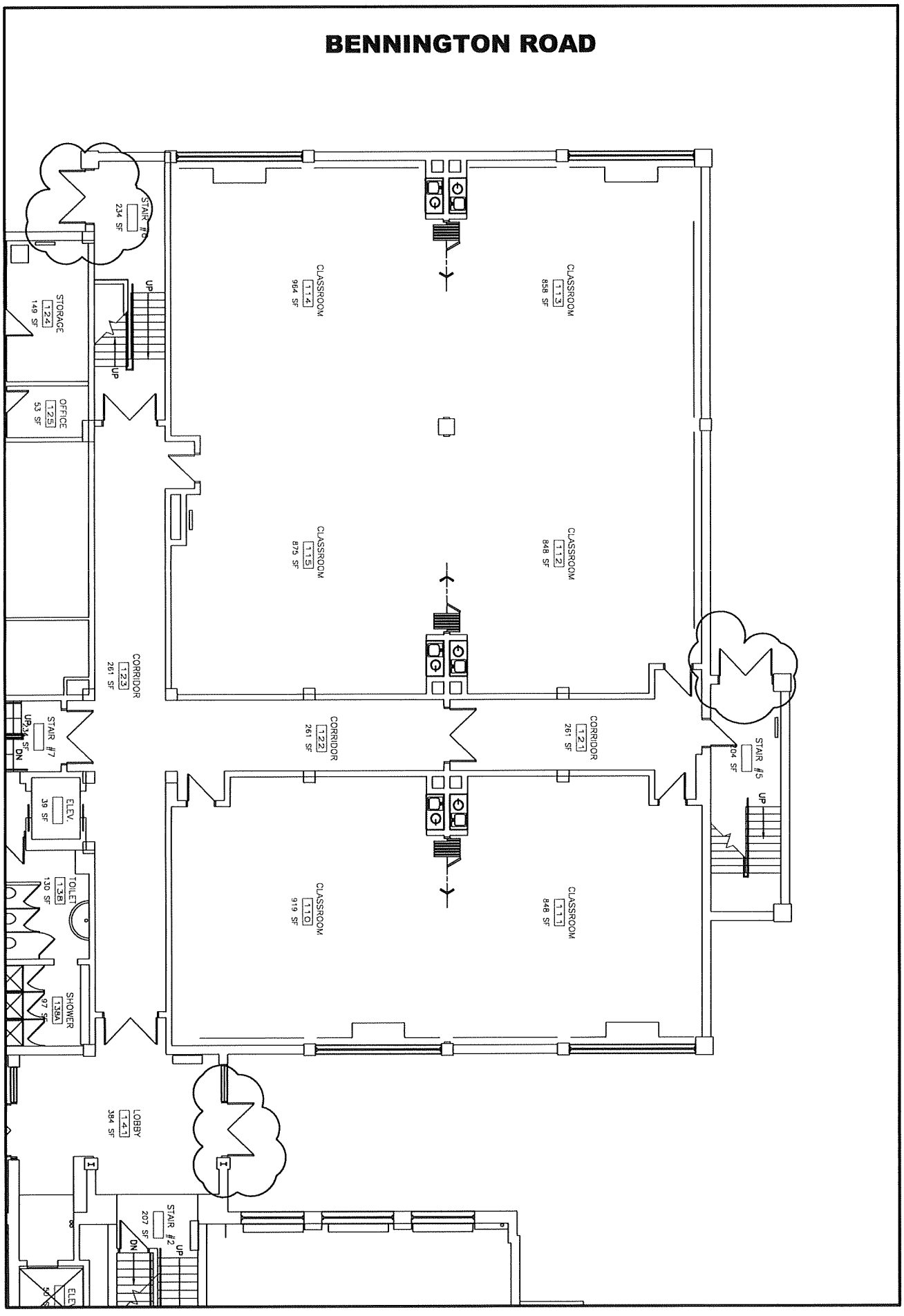
C. Hardware Sets (example schedule)

Hardware Set 1 (quantity: 6 pairs)

2	each	Continuous Hinges	ROT	780-210HD
1	each	Removable Mullion	VON	5954 with Double Weatherstrip.
1	each	Exit Device	VON	CD99EO
1	each	Exit Device	VON	CD99NL-OP
3	each	Cylinders	SCH	Mortise
1	each	Cylinder	SCH	Rim
2	each	Pulls	ROC	BF157
2	each	Closers	LCN	4041
2	each	Sweeps	NGP	C627
1	set	Mtg. Stile Gasketing	NGP	170S
1	each	Threshold	NGP	513, size as required.

Weatherstrip to be integral part of aluminum frame.

END OF SECTION 08711



A1.02

CONTENT:
CAFETERIA/GYM FLOOR PLAN

DRAWN BY:
PROJECT NO.:
DATE: 10/05/07
REVISED:
SCALE: 1/8" = 1'-0"
TRACKING NO.:

WEBSTER ELEMENTARY SCHOOL

2519 ELM STREET
MANCHESTER, NEW HAMPSHIRE