

IPSWICH PUBLIC SCHOOLS TOWN OF IPSWICH, MASSACHUSETTS



INVITATION FOR BID FOR:

Roof Repair and Recovery

IPSWICH PUBLIC SCHOOLS

Paul F. Doyon Memorial Elementary School

216 Linebrook Road, Ipswich, Massachusetts

IPS PROJECT 25.11.04.100

November 4, 2025

TABLE OF CONTENTS

IFB for Roof Repair and Recovery **Paul F Doyon Memorial Elementary School**

Page 1	Cover Page
Page 2	Table of Contents
Page 3	IFB General Project Information and Requirements
Page 4	Bid Submission Instructions, Deadlines
Page 5	Evaluation Criteria, Rule for Award
Page 8	Certificates of Non-Collusion and Tax Compliance (Attachment 1)
Page 9	Performance & Professional Reference Form (Attachment 2)
Page 10	Official Bid Price Form (Attachment 3)
Page 11	Bidder's Certification Prevailing Wages (Attachment 4)
Page 12	Payment Bond Form (Attachment 5)
Page 14	Performance Bond Form (Attachment 6)
Page 16	Statement of Compliance, Weekly Payroll (Attachment 7)
Page 17	General Requirements for Doing Business with the Town of Ipswich
Page 25	General Terms & Conditions – Contract Documents
Page 42	Special Conditions – Contract Documents
Page 44	Prevailing Wage Rates and Regulations
Page 48	Project Section 1: Summary of Work
Page 50	Project Section 2: Conduct of the Work
Page 52	Project Section 3: Submittals, Shop Drawings, et al
Page 55	Project Section 4: Temporary Facilities
Page 57	Project Section 5: Protection of Persons & Property
Page 60	Project Section 6: Cutting & Patching
Page 63	Project Section 7: Cleaning Up
Page 65	Project Section 8: Project Close Out
Page 67	Project Section 9: Surveys and Record Drawings
Page 68	Technical Specifications
	Page 69, Hybrid Fleece Backed Thermoplastic Membrane Roofing
	Page 79, Roof Deck and Insulation
Page 83	Addendum – Doyon Roof Drawings

**IPSWICH PUBLIC SCHOOLS
TOWN OF IPSWICH, MA**

INVITATION FOR BIDS (IFB)

**FOR ROOF REPAIR AND RECOVERY
PAUL F DOYON MEMORIAL ELEMENTARY SCHOOL
216 LINEBROOK ROAD, IPSWICH, MA 01938**

I. PROJECT INFORMATION/PROJECT NUMBER: IPS PROJECT 25.11.04.100

- a) **Project Title:** Roof Repair and Recovery 2025
 Paul F Doyon Memorial Elementary School
- b) **Project Location:** Paul F Doyon Memorial Elementary School
 216 Linebrook Road, Ipswich, MA 01938
- c) **Project Overview:**
The general overview, scope of work and timeline are outlined in this IFB, Summary of Work, beginning on page 48.
- d) **Project Timeline:**
Upon award of contract to successful bidder, the work is to commence soon thereafter and to be completed by December 31, 2025.
- e) **Project Budget:**
Project budget to be provided by each bidder including all expenses for said project expected to be paid for by the Ipswich Public Schools to the contractor for any and all elements of advancing and completing the job. The estimated contract cost of this project is \$240,000.

II. INVITATION FOR Bid (IFB) INFORMATION

- a) **IFB Title:** IPS Project 25.11.04.100
 Roof Repair and Recovery 2025, Paul F Doyon Memorial School
- b) **IFB Purpose:**
Ipswich Public Schools is seeking proposals/bids, per MGL Chapter 149, from qualified, responsive and responsible contractors to fully execute the roof repairs and recovery including installation, in conformity with the design and engineering plan specifications of this IFB.
- c) **Submission Deadline:**
The deadline for submission of all required bid components is **November 26, 2025 at 9:00am**. Any missing or incomplete required bid components may be cause for the submission to be deemed ineligible as nonresponsive.

d) **Bid Opening and Announcement of Anticipated Contract Awardee:**

The bid documents for all responses to this IFB submitted by the deadline will be opened at **9:15am on Wednesday, November 26, 2025** at the Ipswich Public Schools Central Office, 1 Lord Square, Ipswich, MA and reviewed by the Director of Finance & Operations. At this time, it is anticipated that the Bid Evaluation Committee will meet for the purpose of evaluation and scoring of bid proposals with a goal of awarding the contract by 5:00pm on **Wednesday, November 26, 2025**.

e) **Submission Instructions:**

Submission of all required bid components are due either via email or hand-delivered not later than **9:00am on Wednesday, November 26, 2025**.

- If via email, bid documents to be submitted as PDFs to: tmarkham@ipsk12.net

- If to be hand-delivered: Ipswich Public Schools
Office of Finance & Operations
1 Lord Square, Ipswich, MA 01938
ATTN: Thomas Markham, Director

f) **Required Components for a Complete Submission:**

- () Written acknowledgment, on company letterhead, of understanding the expectation of the scope of work, including the project completion date, and payment of MA Prevailing Wage rates
- () Written acknowledgment, on company letterhead, that the general bidder is and must be certified by the state Division of Capital Asset Management and Maintenance (DCAMM) in the category of ROOFING.
- () Non-collision form, *(form enclosed as Attachment 1)*
- () Tax compliance form, *(form enclosed as Attachment 1)*
- () Performance/Professional Reference form *(form enclosed as Attachment 2)*
- () Official Bid Form, *(form enclosed as Attachment 3)(submitted in separate, sealed envelope)*
- () Bid cost proposal for all expenses *(on company letterhead)(submitted with Attachment 3)*
- () Bidder's Certificate on Prevailing Wages *(form enclosed Attachment 4)*
- () Payment Bond Certificate *(form enclosed Attachment 5)*
- () Performance Bond Certificate *(form enclosed Attachment 6)*
- () Statement of Compliance, Weekly Payroll *(form enclosed Attachment 7)*
- () Bid deposit in the form of a certified check, payable to Ipswich Public Schools, for 5% of the value of the total bid

g) **Contact Information:**

Any bidder with questions or clarifications may contact the school district's procurement officer in writing or via email:

Thomas Markham, Director of Finance & Operations
Ipswich Public Schools
1 Lord Square
Ipswich, MA 01938

or via email at tmarkham@ipsk12.net

NOTE 1: Any such questions or requests for clarifications and any related answers shall be public information and automatically shared with all known potential bidders and, upon request, with any member of the public

NOTE 2: Answers to questions or clarifications shall be provided within 24 hours of request; accordingly, no questions shall be entertained after 3pm on Monday, November 24, 2025.

h) **Site Walk-Through, Question and Answer Session:**

A site walk-through and Q&A session will be held on **Friday, November 14, 2025 at 10:00am** meeting outside at the entrance to Paul F Doyon Memorial Elementary School. Attendance at this walk-through is optional and not a requirement of this IFB.

III. EVALUATION CRITERIA. This section identifies how Ipswich Public Schools will evaluate IFB bids.

OVERVIEW. Ipswich Public Schools will evaluate bids for this IFB as described below.

- a) Bidder responsiveness, specification, price factors and responsibility, will be evaluated based on the process described herein.
- b) Bidders whose bids are determined to be non-responsive will be rejected and will be notified of the reasons for this rejection.
- c) Ipswich Public Schools reserves the right to: (1) Waive any informality; (2) Reject any or all bids, or portions thereof; (3) Accept any portion of the items bid unless the bidder stipulates all or nothing in their bid; (4) Cancel an IFB and re-solicit bids; and/or (5) Negotiate with the lowest responsive and responsible bidder to determine if that bid can be improved.
- d) Ipswich Public Schools will use the following process and evaluation criteria for an award of a Contract:
 - *Step 1: Responsiveness. (Pass/Fail)*
 - *Step 2: Contractor Quality Requirements Evaluation. (Pass/Fail)*
 - *Step 3: Pricing Evaluation.*
 - *Step 4: Responsibility Analysis, Performance References. (Pass/Fail)*
- i. **RESPONSIVENESS (STEP 1).** Ipswich Public Schools will review bids – on a pass/fail basis – to determine whether the bid is ‘responsive’ to this IFB. This means that Ipswich Public Schools will review each bid to determine whether the bid is complete – i.e., does the bid include each of the required bid submittals, are the submittals complete, signed, legible. Ipswich Public Schools reserves the right – in its sole discretion – to determine whether a bid is responsive. (Components referenced above in II.d - Submission Instructions)
- ii. **CONTRACTOR QUALITY REQUIREMENTS EVALUATION (STEP 2).** Ipswich Public Schools will evaluate each bid on a pass/fail basis to ensure that each bidder has met the Quality Requirements. Ipswich Public Schools reserves the right to request additional information or perform tests and measurements before selecting the Apparent Successful Bidder (“ASB”). A bidder’s failure to provide requested information to Ipswich Public Schools within ten (10) business days may result in disqualification.

- iii. **BID PRICING EVALUATION (STEP 3).** Ipswich Public Schools will evaluate bid prices – to identify the lowest evaluation total – by reviewing and comparing the submitted bid prices provided from among all responsive and responsible bidders.
1. Only those bidders that are within 25% of the lowest total bid provided in response to this IFB will be further determined to be responsive and responsible bidders
 2. Ipswich Public Schools reserves the right to request clarification and justification of Bidder's prices if they significantly vary from industry norm/standard and other Bidders. Ipswich Public Schools further reserves the right to not award a particular line item(s) if pricing significantly varies from industry norm/standard and other Bidders.
- iv. **RESPONSIBILITY ANALYSIS AND PERFORMANCE REFERENCES (STEP 4).** For responsive bids, Ipswich Public Schools will make reasonable inquiry to determine the responsibility of any bidder. Further, Ipswich Public Schools reserves the right to use references to confirm satisfactory customer service, performance, satisfaction with service/product, knowledge of products/service/industry and timeliness. Any negative or unsatisfactory reference can be reason for rejecting a proposer as non-responsible. Determination of responsibility will be made on a pass/fail basis.

IV. RULE FOR AWARD. The contract will be awarded to the responsive and responsible bidder offering the lowest total overall price for all required services.

- Following the award and execution of the Contract, the submission of required engagement documents, if any, and the issuance of an IPS Purchase Order, all bidders will receive a Notice of Award, usually through an email to the bidder's email address provided in the bidder's bid.
- No partial solutions will be considered acceptable.
- **ADDITIONAL AWARDS.** Ipswich Public Schools reserves the right, during the resulting Contract term, if, in the best interest of the Ipswich Public Schools and the progress of the project, to make additional Contract awards to any responsive, responsible bidders who are not awarded the Contract. Such awards would be on the same or substantially similar terms and conditions and would be designed to address unforeseen circumstances or work conditions, subsequently agreed upon contractor limitations, a contractor vacancy (e.g., a Contractor is terminated or goes out of business), or to respond to other school district needs, or be in the best interest of the Town of Ipswich, MA.

V. ADDITIONAL REQUIREMENTS IN EXECUTING THE CONTRACT AWARD

- a) **Insurance Requirements:** Issuance of Certificate of Insurance for general liability and indemnification of Ipswich Public Schools, the Town of Ipswich, its officials, employees and agents
- b) **Admissibility of contractor's employees and agents on school grounds:** Employees and agents of the contractor and any sub-contractors must meet required standards for being present on school grounds, including submission to CORI background checks and successful results

- c) **Terms of Payment:** Upon the issuance and acceptance of a contract and purchase order, the contractor agrees to standard payment terms of net thirty (30) days, including the submission of timely and approved invoices and certifications of prevailing wage rated payrolls, and the general acknowledgement that payment will not be advanced until completion of the project or phased components of the project mutually agreed upon as progress payments.
- d) **Change Order Process:** Change order processes, including approvals, to be mutually agreed upon at the execution of the contract award

VI. AUTHORIZATION

This Invitation for Bid (IFB) is being submitted on behalf of the Ipswich Public Schools, Town of Ipswich, upon authorization by the Ipswich School Committee and the Superintendent of Schools, with funding secured through votes approved by Town Meeting for FY2026 or earlier.

Signed: /s/ *Thomas Markham*

Thomas F Markham III
Director of Finance & Operations, SBA/Chief Procurement Officer
Ipswich Public Schools
1 Lord Square
Ipswich, MA 01938

Date: November 4, 2025

Attachment 1:

Certification of Non-Collusion and Tax Compliance Certification

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of individual submitting bid or proposal

Name of business

Date

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I and the business I am representing are in compliance with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of individual submitting bid or proposal

Name of business

Date

Attachment 2:**Performance/Professional Reference Form***Attach additional sheets if necessary.*

Bidder Name: _____

IFB Title: _____

Bidder must share at least three (3) past or present customers able to provide a professional reference for quality of work performance. References should be able to speak to contracted work performed within the past two (2) years of similar size and scope to this contract; or all current contracts where the vendor's equipment has been operational for at least two (2) years; or other requirements that may help define an appropriate reference pool.

Reference Company Name 1: _____

Contact person name: _____

Address: _____

Phone: _____ Email: _____

Description and date(s) of supplies or services provided to this reference:

_____**Reference Company Name 2:** _____

Contact person name: _____

Address: _____

Phone: _____ Email: _____

Description and date(s) of supplies or services provided to this reference:

_____**Reference Company Name 3:** _____

Contact person name: _____

Address: _____

Phone: _____ Email: _____

Description and date(s) of supplies or services provided to this reference:

Attachment 3:

**IPSWICH PUBLIC SCHOOLS, TOWN OF IPSWICH
OFFICIAL BID PRICE FORM
TO BE SUBMITTED IN SEPARATE SEALED ENVELOPE
REVISED 2025**

_____ (Vendor/Bidder Name) proposes to furnish the Town of Ipswich & the Ipswich Public Schools for the full completion of the **ROOF REPAIR AND RECOVERY PROJECT AT THE PAUL F DOYON MEMORIAL ELEMENTARY SCHOOL** in accordance with the Ipswich Public School's bid documents and specifications, **PROJECT NUMBER 25.11.03.100** and dated November 3, 2025.

TOTAL PROJECT COST: \$_____

() (check here) **Acknowledgement of anticipated completion date of December 31, 2025**

DATE: _____

NAME OF BIDDER: _____

SIGNED: _____

NAME (printed): _____

TITLE: _____

Attachment 4:

TOWN OF IPSWICH, MASSACHUSETTS

Bidder's Certification Regarding
Payment of Prevailing Wages

The undersigned bidder hereby certifies, under the pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Industries. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work, arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

DATED: _____

NAME OF BIDDER: _____

SIGNED: _____

NAME: _____

TITLE: _____

Attachment 5:

PAYMENT BOND

Known by all persons by these presents that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the _____

hereinafter called Owner, in the penal sum of:

Dollars (\$))

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____ 2025, a copy of which is hereto attached and made a part hereof for the construction of:

Now, therefore, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such Work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void, otherwise to remain in full force and effect.

Provided, further, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the Contract Documents accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the Contract Documents.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

In witness whereof, this instrument is executed in _____ counterparts, each one of which
(number)

shall be deemed an original, this the _____ day of _____ 2023.

(SEAL)

Attest: _____

By _____ By _____
Witness as to Principal Contractor

Name Name

Address Address

(SEAL)

Attest: _____

By _____ By _____

Witness as to Surety

Attorney-in-Fact

Name Name

Address Address

Notes:

1. Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners must execute the Bond.
2. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

Attachment 6:

PERFORMANCE BOND

Known by all persons by these presents that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the _____

hereinafter called Owner, in the penal sum of:

Dollars (\$))

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____ 2025, a copy of which is hereto attached and made a part hereof for the construction of:

Now, therefore, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

Provided, further, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the Contract Documents accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the Contract Documents.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

In witness whereof, this instrument is executed in _____ counterparts, each one of which
(number)
shall be deemed an original, this the _____ day of _____ 2023.

(SEAL)

Attest:

Principal

By _____

Witness as to Principal

By _____

Contractor

Name

Name

Address

Address

(SEAL)

Attest:

Surety

By _____

Witness as to Surety

By _____

Attorney-in-Fact

Name

Name

Address

Address

Notes:

1. Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners must execute the Bond.
2. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

Attachment 7:

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

STATEMENT OF COMPLIANCE

_____, 20____

I, _____, _____
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____

Title _____

**GENERAL REQUIREMENTS FOR ALL VENDORS/CONTRACTORS DOING
BUSINESS WITH THE IPSWICH PUBLIC SCHOOLS, TOWN OF IPSWICH, MA**

1. All contracts and purchases made by or under the supervision of the Superintendent of Schools, and/or as delegated to the Director of Finance & Operations/Chief Procurement Officer, for which competitive bids are required shall be awarded to the lowest responsive and responsible bidder, taking into consideration conformity with the specifications, terms of delivery, other conditions imposed in the request for bids. Competitive sealed bids shall be solicited for all school projects of \$100,000 or more.
2. The School District reserves the right to accept or reject any or all bids, to waive any informality and award the contract to one or more bidders as may be in the best interest of the School District or the Town. Any contract/s made will be subject to grants and appropriations to meet payments there under. An EEO/AA Employer; MBE/WBE firms are encouraged to submit bids.
3. All prices will be in effect for approximately one year, or until another contract is awarded, with the School District having the option to renew this contract at the end of the contractual year for an additional period of time, if agreeable to both parties. The contract may be extended for not more than two (2) additional twelve (12) month periods, under the same terms, conditions, and prices at the sole discretion of the School District.
4. Specifications are not intended to limit competition to certain manufacturers or contractors, but merely to indicate to the bidders the general type of supplies and services required by the School District. The School District invites bids on comparable supplies and/or services; however, if either differs from that which is specified, a letter must accompany the bid stating the exact description. Bidders must read and understand the specifications and rule of award before submitting their bid documents to the School District.
5. In the event a bidder is of the opinion there are inconsistencies between portions of the specifications which cause confusion as to the precise intention or objective of the School District in its invitation for bids, it shall be the obligation of the bidder to notify the School District, in writing, at least two (2) calendar days prior to the opening of the bid, stating in detail the section or sections which the vendor is of the opinion are inconsistent, together with an explanation why the vendor is of the opinion said sections are inconsistent.
6. In accordance with Massachusetts General Laws, Chapter 62C, §49A, the awarded bidder must certify under the penalties of perjury that they have filed all state tax returns and paid all state taxes required under law. (Said certification will be included in the Bid.)
7. In accordance with Massachusetts General Laws, Chapter 7, §22; Chapter 30, §39M; Chapter 40, §4B½ and Chapter 43, §28A, any person submitting a proposal or bid to the Town of Ipswich for the sale, lease or provisions of supplies, equipment, materials, services or other property (whether or not for repairs or construction work) shall certify on the Official Bid Form and on the Contract, under the penalties of perjury, that their bid is in all respects bona fide, fair and made without collusion or fraud with any other person. (As used in this paragraph, the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business of legal entity.).

8. In accordance with Massachusetts General Laws, Chapter 93, §11, as appearing in §1 of Chapter 459 of the Acts of 1978. If a final judgment or decree is rendered in any civil or criminal proceeding brought by the attorney general under these Chapters to the effect that a defendant (Contractor) has violated any section, the School District or Town of Ipswich may void, rescind or cancel any contract to which the violation pertains or relates, and which was entered into with said defendant (Contractor).
9. A bid containing an alteration or an erasure of any price contained in the bid, which is used in determining the lowest responsible bid, shall be rejected unless the alteration or erasure is corrected as herein provided. An alteration or erasure may be crossed out, and the correction thereof printed in ink or typewritten adjacent thereto, and initialed in ink by the person signing the bid.
10. In the case of identical low bids from two or more bidders, the School Superintendent or the Chief Procurement Officer may at their discretion negotiate with the tied low bidders for that particular transaction, so long as the price paid does not exceed the low tied bid price. A record shall be kept of all bids, with the names of bidders and the amounts of bids and with the successful bid indicated thereon. All such records shall be open to public inspection.
11. In any case where competitive bids are required, and where all bids are rejected, no bids will be called, as in the first instance, unless otherwise expressly provided by law. Bids shall be submitted as directed in the Invitation for Bid (IFB). Bids shall be submitted in the format specified, and all appropriate blank spaces shall be filled.
12. Bids shall be submitted prior to the time fixed in the IFB, and upon receipt of same the School District employee receiving same, shall date stamp the bid, mark the time of receipt and place their initials upon the bid. Bids received after the time so indicated in the notice to bidders shall be returned unopened.
13. Upon written request by the bidder, bids may be withdrawn at any time prior to the expiration of the time for submitting bids. Negligence on the part of the bidder in preparing his bid shall not constitute a right to withdraw his bid subsequent to the bid opening. No proposal may be withdrawn without the consent of the School District or the Town of Ipswich for a period of thirty (30) days after the time of opening bids has passed. All bids shall be opened at the time and place specified in the IFB before the Chief Procurement Officer, or designee, at an open public meeting. Final approval on all bids and the award of the contract shall be made by the School Superintendent.
14. Before filing a bid, the bidder shall examine carefully the proposal, plans, specifications, special provisions, rule of award and the form of contract to be entered into for the work contemplated. Each bidder shall examine the site of work and satisfy himself as to the conditions which will be encountered relating to the character, quality and the quantity of work to be performed and the materials to be furnished. The filing of a bid shall be presumptive evidence that these requirements have been completed by the bidder.

15. In accordance with Section 504 of the (Federal) Rehabilitation Act of 1973 and 31 Code of Federal Regulations Part 51, each vendor awarded a contract pursuant to these General Requirements must certify to the School District or the Town of Ipswich that said vendor does not discriminate in its employment, procurement and marketing activities on the basis of race, creed, color, national origin, sex, handicap, age or any other legally protected status.
16. In accordance with Massachusetts General Laws Chapter 149, §44B(2) and Chapter 30, Section 39M as amended, a Bid Deposit, in the form of a Certified Check or Bid Bond, in the amount of 5% of the total value of the proposed work and/or materials must be submitted with each bid. The School District reserves the right to reject bids failing to comply with this requirement. The deposit of all bidders will be returned as soon as the successful bidder has entered into a contract or furnished bond, if required, or all bids have been rejected. The deposit will be forfeited as liquidated damages resulting if the person to whom the contract is awarded fails to accept it.

GENERAL REQUIREMENTS FOR CONTRACTORS EITHER PERFORMING A SERVICE OR DOING CONSTRUCTION WORK FOR THE TOWN OF IPSWICH

As well as the General Requirements for all Contractors Doing Business With The Town of Ipswich as indicated above on the preceding pages, the following General Requirements for the Performance of a Service for the School District and/or the Town or doing Construction Work for the School District and/or the Town are a part, item by item, of the contract:

1. In accordance with Massachusetts General Laws, Chapter 149, Section 27E, any employee working on Municipal Construction Contracts must be paid the prevailing minimum wage rates for said job.
2. The Contractor shall commence work upon notification after delivery of an executed copy of the contract to them. The contractor may not start work without an executed contract.
3. Each bid shall be accompanied by a certified check, or bid bond, in the amount of 5% of the total amount of the bid, in a form acceptable to the Town; payable to the Ipswich Public Schools or the Town of Ipswich as evidence of good faith by the bidder. The deposit of all bidders will be returned as soon as the successful bidder has entered into a contract and furnished bond, or all bids have been rejected. The deposit will be forfeited as liquidated damages resulting if the person to whom the contract is awarded fails to accept it. No bidder may withdraw his bid for a period of thirty (30) calendar days after the actual date of the opening thereof.
4. Insurance
 - a) Indemnity Clause: An indemnity clause, or alternatively liability insurance, will be required of the successful bidder, in which the successful bidder will be required to hold harmless and indemnify the School District and the Town from all claims, legal or equitable, including court costs and reasonable attorney's fees, arising out of the bidder's operations.
 - b) Workman's Compensation Insurance: As required by the Massachusetts General Laws, the bidder shall take out and maintain during the life of this contract, Workman's Compensation Insurance for all his employees employed in the course of performing services under this contract awarded pursuant to these specifications; and in case any work is sublet, the bidder shall require the Sub-Contractor similarly to provide Workmen's Compensation Insurance for all the latter's employees

unless such employees are covered by the protection afforded by the bidder. Copies of all insurance certificates required under this section shall be provided by the bidder to the School District prior to the commencement of work on such a contract awarded pursuant to these specifications.

- c) Miscellaneous Insurance: The bidder shall carry and maintain, until final written acceptance of the work by the School Superintendent or designee, insurance as specified below and in such form as shall protect his performing work covered by this contract, or the Town of Ipswich and its employees, agents and officials, from all claims and liability for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this contract. The bidder covenants and agrees to hold the Town and its employees, agents and officials harmless from loss or damage due to claims for personal injury and/or property damage arising from, or in connection with, operations under this contract. Except as otherwise stated, the amounts of insurance shall be for each policy not less than:
- For liability for bodily injury, including accidental death, \$1,000,000 for any one person and \$1,000,000 on account of one (1) occurrence and \$3,000,000 Aggregate Limit.
 - For liability for property damage \$1,000,000 on account of any one (1) occurrence and \$1,000,000 Aggregate Limit.
 - Bodily Injury Premise-Operations, Contractor's Protective and Completed Operations Public Liability Insurance, in the amounts required in (1) above.
 - Property Damage Premise-Operations, Contractors Protective and Completed Operations Public Liability Insurance, in the amounts required in (2) above.
 - Bodily Injury Liability Insurance covering the Operation of all Motor Vehicles owned by the contractor and vehicles not owned by the contractor, while such vehicles are being operated in connection with the prosecution of the work under this contract, in the amount of \$1,000,000 per person; \$1,000,000 aggregate.
 - Property Damage Liability Insurance covering the operation of all motor vehicles owned by the contractor and vehicles not owned by contractor, while such vehicles are being operated in connection with the prosecution of the work under this contract, in the amount of \$1,000,000 per occurrence; \$1,000,000 aggregate. The Town of Ipswich shall be named as an "Additional Insured".
 - Contractual Liability Insurance covering the liability assumed by the contractor in the amounts required under (1) and (2) above.
 - All policies shall be so written that the School Superintendent and/or the School Director of Finance & Operations will be notified of cancellation or restrictive amendment at least thirty (30) days prior to the effective date of such cancellation or amendment. A certificate from the bidder's insurance carrier showing at least the coverage and limits of liability specified above and expiration date shall be filed with the School Director of Finance & Operations before operations are begun. Such certificate shall not merely name the types of policy provided, but shall specifically refer to these specifications and shall state that such insurance is as required by these specifications.
 - **CERTIFICATES OF INSURANCE MUST BE SUBMITTED TO THE SCHOOL FINANCE OFFICE BEFORE A CONTRACT IS SIGNED. THE CERTIFICATES OF INSURANCE MUST INCLUDE ALL COVERAGE AS STATED ABOVE.**

5. The School Superintendent and his designated agents will keep close watch over the progress of the work. They shall have access to the work and be allowed to inspect it.
6. The Contractor shall be responsible for protecting his own work and all nearby abutting properties from damage resulting from his performance of the contract. He shall pay particular attention to trees shrubs, lawns, steps, walks, etc., abutting the work and shall protect them from damage and harm. If, through negligence or carelessness, the contractor damages such trees, shrubs, etc., an amount equal to the damage done shall be deducted from his payment. Such payment reduction shall be determined by the School District and shall be final and binding.
7. The Contractor shall obtain all required permits, licenses, certificates and inspections, both permanent and temporary, and shall make all necessary arrangements with Utility Companies to properly prosecute the work, and shall send all notices to Utilities as required by the General Laws. Permit fees are waived for Town projects.
8. The School District or the Town without invalidating the contract may order extra work or make changes by altering, adding to, or deducting from the work; and the contract sum shall be adjusted accordingly. All such work shall be executed under conditions of the original contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.
9. In giving instructions, the School Superintendent or his project designee shall have authority to make minor changes in the work not involving extra cost and consistent with the purposes of the work; but otherwise no extra work or change shall be made unless in pursuance of written order signed by the School Superintendent or the Director of Finance & Operations and no claim for an addition to the contract sum shall be valid unless so ordered.
10. Neither the final certificate, nor payments, nor any provision in the contract shall relieve the Contractor of responsibility for faulty materials or workmanship, any defects, omission or mistake of the Contractor or his employees, and he shall remedy any defects due thereto, and pay for any damage to any work resulting there from which shall appear within a period of one (1) year from the date of successful completion.
11. If the Contractor shall be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse, or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials or equipment, or if he should fail to make prompt payments to sub-contractors, or for material or labor or persistently disregard laws, ordinances or the instructions of the School Superintendent or otherwise be guilty of a substantial violation of any provision of the contract, then the School District without prejudice to any other right or remedy and after giving the contractor seven (7) days' notice may terminate the employment of the Contractor, or may terminate the authority of the Contractor to continue work and may take possession of the premises, and all of the materials, tools, equipment and appliances thereon, and finish the work by whatever method the School District and the Town deems expedient, and shall not deprive them of any other remedy at law or inequity.
12. The Contractor shall at all time keep any properties free from an accumulation of waste material or rubbish caused by his employees or work. At the completion of the work, the contractor shall remove all rubbish, tools, equipment and materials from the adjacent properties and highways and shall leave all work at project site in broom clean condition.

13. The Contractor shall designate an employee to act as Resident Engineer at the site of the work. The Resident Engineer shall have charge of the work in behalf of the Contractor and shall be authorized to act for the Contractor in all respects.
14. The Contractor shall not assign the contract or any part thereof or sublet it, or any part thereof or assign any moneys due or to become due to him there under without previous written consent of the School District.
15. The contract will be awarded only to a responsible bidder who is capable of performing and experienced at the type of work entailed. Only reputable established companies will be accepted as responsible bidders. The low bidder will be required to show proof that he has sufficient equipment, equipment operators and a sufficient number of qualified and experienced employees to properly and efficiently accomplish the proposed work. He shall also furnish proof of his financial ability to start, operate and complete the work.
16. The School Superintendent or his designee will furnish basic information pertaining to layouts, bench marks, etc., sufficient for controlling the location and grades of the work. The Contractor shall, at his own expense, furnish all necessary equipment, personnel, stakes, etc., and shall lay out the work in detail, as required, including lines and grades as necessary in each instance. All reference marks shall be verified by an instrument at frequent intervals, and the Contractor shall be responsible for the accuracy of all lines and grades relative to the project. In all cases, figured dimensions shall take preference over scaled dimensions.
17. The Contractor shall pay to the School District for each and every calendar day that he shall be in default in completing the work as herein provided, the sum of one thousand dollars (\$1,000.00) which sum is hereby agreed upon, not as a penalty but as damages which the School District will suffer daily by reason of such default.
18. The Contractor shall at all times and at his own expense provide, place and erect all necessary barricades and warning signs and furnish and keep lighted all lights necessary to protect the work from traffic, pedestrians and animals. The Contractor shall be held responsible for all damage to the work.
19. The Contractor shall indemnify and save harmless the Town of Ipswich and all of its officers, agents and employees against all suites, claims or liability of every name and nature, for or on account of any injuries to persons or damage to property arising out of or in consequence of the acts of the Contractor in the performance of the work covered by the contract and for failure to comply with the terms and conditions of said contract, whether by himself or his employees or subcontractors, but only in respect of such injuries or damages sustained during the performance and prior to the completion and acceptance of the work covered by the contract.
20. The Contractor agrees to hold the Surety and the School District and the Town harmless from all and any claims, liens, demands or bills for labor and/or materials furnished or delivered in the performance of this contract, and agrees to indemnify the Surety and the School District and the Town against all loss, damage or costs, legal or otherwise, ensuing from the same. No official of the Town of Ipswich or its agents or employees shall be held personally responsible for any liability arising under the contract.
21. The School Superintendent may appoint such assistants and representatives as he deems necessary; and they shall be authorized to inspect work and materials, to give directions pertaining to the work or

to the safety and convenience of the public, to approve or reject materials and workmanship, to make measurements of quantities and to perform such other duties as may be designated by the School Superintendent.

22. In case of any dispute arising between the Contractor and the School Superintendent's representatives as to materials furnished or the manner of performing the work, the said School Superintendent's assistants shall have the authority to reject the materials or to suspend the work until the question at issue can be referred to and decided by the School Superintendent. Representatives and agents of the School Superintendent are not authorized to revoke, alter, enlarge, relax or release any requirements of the contract and specifications, or to issue any instructions contrary to the plans and specifications. They shall, in no case, act as foreman for or perform other duties for the Contractor.
23. The Contractor shall give his personal attention constantly to the faithful prosecution of the work, shall keep the same under his personal control, and shall not assign by power of attorney or otherwise, or sublet the work or any part thereof, without the previous written consent of the School Superintendent and shall not, either legally or equitably, assign any of the monies payable under this agreement, or his claim thereto, unless by and with the written consent of the School Superintendent. He shall be responsible for the acts and omissions of his subcontractors, if any, and all persons directly or indirectly employed by him or them in connection with the work.
24. The Contractor shall notify the Director of Finance & Operations as soon as practicable after the execution of the contract, the name and address of each subcontractor he intends to employ, the portion of the work which the subcontractor is to do, and such other information the School District may require in order to ascertain whether the subcontractor is reliable and able to perform the work. The Director of Finance & Operations or his agent(s) will make a periodic pay estimate for the Contractor only regardless of the fact that the Contractor employs one or more subcontractors. It shall be the Contractor's responsibility to determine the amount of work that is payable to his subcontractors and the School District and the Town frees itself of all such responsibility. The Contractor shall direct the attention of his subcontractors to the requirements regarding insurances.
25. The School Superintendent or his assistant(s) shall have the authority to suspend the work wholly or any part thereof, for such period as he may deem necessary, because of unsuitable weather conditions, or for such other causes as are considered unfavorable for the satisfactory completion of the work, or for such time as he may deem necessary due to the failure of the Contractor to carry out orders given or to perform any provision of the contracts. The work shall be resumed when conditions so warrant or deficiencies have been corrected and the conditions of the contract satisfied as ordered or approved by the School Superintendent.
26. The quantities of the various items of work performed shall be determined by the School Superintendent or his assistant(s). Upon the completion of the work and before final payment is made, the School Superintendent or his assistant(s) will make a final measurement to determine the quantities of the various items of work performed, as the basis of final settlement. All measurements shall be made according to the United States Standard Units of Measurements.
27. The Contractor shall work the regular eight (8) hour day, five (5) day work week, Saturdays, Sundays, and holidays excluded. If the Contractor wishes to work more than an eight (8) hour day, five (5) day work week and/or on Saturdays, Sundays, and holidays, he shall first receive permission in writing from the School Superintendent or his assistant(s).

28. In accordance with Massachusetts General Law Ch149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is provided and includes all information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.
29. Every contractor and subcontractor is required to submit a copy of their weekly payroll records to the Director of Finance & Operations. This is required to be done on a biweekly basis. Once collected, the awarding authority is required to preserve those records for three years.
30. OSHA TRAINING: Chapter 306 of the Acts of 2004 - an Act Relative to the Health and Safety on Public Construction Projects. Consider the below statement as having been added to bid form as a requirement:

The Town shall require each Contractor to furnish documentation of successful completion of the OSHA training course for each employee scheduled on the worksite. The information shall be a requirement with the first certified payroll for all individuals.

31. The undersigned bidder hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee (effective July 1, 2006); and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

RULE OF AWARD: The Town of Ipswich and Ipswich Public Schools, in accordance with laws & guidelines listed for M.G.L. Chapter 149, will award the **Roof Repairs & Doyon School** Invitation for bid to the lowest responsible and responsive bidder based on total bid dollar amount.

No partial solutions are accepted.

References: The Ipswich Public Schools reserve the right to contact any and all of the references and access any public information to determine the quality of past work, business standing and responsiveness to client needs.

GENERAL TERMS AND CONDITIONS

- | | |
|--|---|
| 1. Definitions | 19. Payments to Contractor |
| 2. Additional Instructions and Detail Drawings | 20. Acceptance of Final Payment as Release |
| 3. Schedules, Reports and Records | 21. Insurance |
| 4. Drawings and Specifications | 22. Contract Security |
| 5. Shop Drawings | 23. Assignments |
| 6. Materials, Services and Facilities | 24. Indemnification |
| 7. Inspection and Testing | 25. Separate Contracts |
| 8. Substitutions | 26. Subcontracting |
| 9. Patents | 27. Architect's Authority |
| 10. Surveys, Permits, Regulations | 28. Land and Rights-of-Way |
| 11. Protection of Work, Property, Persons | 29. Guaranty |
| 12. Supervision by Contractor | 30. Claims and Disputes |
| 13. Changes in the Work | 31. Taxes |
| 14. Changes in Contract Price | 32. Interpretation of Drawings and Specifications |
| 15. Time for Completion and Liquidated Damages | 33. Site Regulations |
| 16. Correction of Work | 34. Limitations of Data Presented |
| 17. Subsurface Conditions | 35. Health and Safety Equipment |
| 18. Suspension of Work, Termination and Delay | |

1. DEFINITIONS

Wherever used in the Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

- 1.1 ADDENDUM - A written or graphic instrument issued prior to the execution of the Contract, which modifies or interprets the Contract Documents, and/or Drawings and Specifications, by additions, deletions, clarifications or corrections.
- 1.2 AWARDING AUTHORITY - The authorized agent or representative of the Owner, as defined herein, for which the Project shall be undertaken.
- 1.3 BID - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 1.4 BIDDER - Any person, firm or corporation submitting a Bid for the Work.
- 1.5 BOND - Bid, Performance and Payment Bond(s) and other instruments of security, furnished by the Contractor and its Surety in accordance with the Contract Documents.
- 1.6 CHANGE ORDER - A written order to the Contractor authorizing an addition, deletion or revision in the Work within the general scope of the Contract Documents or authorizing an adjustment in the Contract Price or Contract Time.
- 1.7 COMPLETION - That date, as certified by the Architect, when the construction of the Project (and all parts thereof) is fully completed in accordance with the Contract Documents, including but not limited to the satisfactory fulfillment of, in the opinion of the Architect, all punch list items, correction of any defective Work, start-up and training, testing of equipment, submission and approval of operations and maintenance manuals and record drawings. Should the Contractor not achieve Completion within the specified time, or extension of time granted by the Owner, then the provisions of Liquidated Damages shall apply.
- 1.8 CONTRACT - The Contract Documents form the Contract for construction. The Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes prior negotiations, representations or agreements, either written or oral.

- 1.09 CONTRACT DOCUMENTS – The term, Contract Documents, is defined in the Form for Agreement.
- 1.10 CONTRACT PRICE - The total monies payable to the Contractor under the terms and conditions of the Contract Documents.
- 1.11 CONTRACT TIME - The number of calendar days, and/or in combination with working days, stated in the Contract Documents to achieve Completion of the Work.
- 1.12 CONTRACTOR - The person, firm or corporation with whom the Owner has executed the Contract.
- 1.13 DRAWINGS - The part of the Contract Documents that shows the characteristics and scope of the Work to be performed and which have been prepared or approved by the Architect.
- 1.14 DESIGNATED AGENT – The authorized representative (s) of the Owner
- 1.15 ARCHITECT - The person, firm or corporation named as such in the Contract Documents.
- 1.16 FIELD ORDER - A written order affecting a change in the Work, not involving an adjustment in the Contract Price or an extension of the Contract Time, issued by the Architect to the Contractor during construction.
- 1.17 LIQUIDATED DAMAGES – The sum of monies due the Owner from the Contractor for the Owners costs incurred because of the Contractor's default for failure to achieve Substantial Completion or Completion of the Work within the specified time(s) or extension of time(s) granted by the Owner, as specified in the Contract Documents.
- 1.18 NOTICE OF AWARD - The written notice of the acceptance of the Bid by the Owner to the successful Bidder.
- 1.19 NOTICE TO PROCEED - Written communication issued by the Owner to the Contractor authorizing the Contractor to proceed with the Work and establishing the dates of commencement and completion of the Work.
- 1.20 OWNER - A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.
- 1.21 PROJECT - The undertaking to be performed as provided in the Contract Documents.
- 1.22 RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the Architect at the Project Site who is assigned to the Project Sites or any part thereof.
- 1.23 SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, Supplier or distributor, which illustrate how specific portions of the Work shall be fabricated and/or installed.
- 1.24 SPECIFICATIONS - The part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- 1.25 STATE - The State in which the Work under this Contract is to be performed.
- 1.26 SUBCONTRACTOR - A person, firm or corporation having a direct contract with the Contractor, or with any other Subcontractor, for the performance of a part of the Work.
- 1.27 SUBSTANTIAL COMPLETION - That date, as certified by the Architect, when the construction of the Project, or a specified part thereof, is sufficiently completed in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it is intended.
- 1.28 SUPPLEMENTAL GENERAL CONDITIONS - Modifications to General Conditions required by an entity having a jurisdiction over or for participation, whether financially or otherwise, in the Project and approved by the entity in writing prior to inclusion in the Contract Documents, or such requirements that may be imposed by the Owner, the Architect or applicable federal, state and local laws, regulations and/or agency guidelines.

- 1.29 SUPPLIER - Any person or organization who supplies materials or equipment to be incorporated with the Work, including that fabricated to a special design, but who does not perform labor at the site(s).
- 1.30 WORK - All labor, materials and equipment incorporated or to be incorporated in the Project required by the Contract Documents.
- 1.31 WRITTEN NOTICE - Any notice to any party of the Contract relative to any part of the Work of the Contract Documents in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at its last given address or delivered in person to said party or its authorized representative. Whenever the words "as directed", "as permitted", "as required", or words of like effect are used, it shall be understood that the direction, permission or requirements of the Architect is intended; and similarly, the words "approved", "acceptable", "satisfactory", or words of like import, shall mean approved or acceptable or satisfactory to the Architect. Whenever the words "or equal", or words of like import are used, it shall be understood that this means equal in accordance with the following provisions: an item shall be considered equal, if in the opinion of the Architect (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will perform at least equally the function imposed by the general design for the Work being contracted for or the material being purchased; and (3) it conforms substantially, even with deviations, to the detailed requirements for the item. Whenever any power is possessed by, or act or thing is to be done by the Owner under this Contract, the exercise of such power or the doing of such act or thing by the Awarding Authority shall be a sufficient compliance with the terms of this Contract unless by law some other officer of the Owner is required to act in the premises. Both the address given in the Bid upon which this Contract is founded and the Contractor's office at or near the site(s) of the Work are hereby designated as places to either of which notices, letters, and any other communications to the Contractor shall be certified mailed or delivered. The delivering to the above-named place(s), or depositing in a post-paid wrapper directed to the first named place, in any post office box regularly maintained by the United States Postal Service, of any notice, letter or other communications to the Contractor, shall be deemed sufficient service thereof upon the Contractor, and the date of said service shall be the date of such delivery or mailing. The first named address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor and delivered to the Architect. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter or other communication upon the Contractor personally.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

- 2.1 The Contractor may be furnished additional instructions and detail Drawings, by the Architect, as necessary to carry out the Work required by the Contract Documents.
- 2.2 The additional Drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail Drawings and instructions.

3. SCHEDULES, REPORTS, AND RECORDS

- 3.1 Within ten (10) days after the Work has commenced, the Contractor shall submit to the Architect for approval a progress schedule in satisfactory form, showing in detail its proposed progress for the construction of the various parts of the Work and the proposed times for receiving the various materials required. The Contractor shall, at the end of each month, or more often, if required, furnish the Architect two (2) copies of a chart showing actual progress of the various parts of the Work in comparison with the originally proposed progress schedule, as approved.
- 3.2 The Contractor shall submit a schedule of payments that it anticipates it will earn during the course of the Work.
- 3.3 The Work is to commence within ten (10) days after a date to be specified in the Notice to Proceed unless otherwise specified. Work shall continue with dispatch to Completion and no suspension of Work will be allowed without written approval of the Architect.

- 3.4 No Saturday, Sunday, holiday, or work day longer than eight (8) hours Work, requiring the presence of the Architect or Resident Project Representative, will be permitted without prior arrangements with the Architect, except in the case of an emergency, and then only to the extent that is absolutely necessary, and, if practical, with the written permission of the Architect. If Saturday, Sunday, holiday or work day longer than eight (8) hours Work is contemplated, the Contractor shall notify the Architect not later than Friday of the previous week to allow arrangements to be made for observation and any other services required by the Owner. If the Contractor must work beyond the regular work week in order to complete the Project within the Contract Time, all expenses of the Architect and its personnel required for observation and any other extra expenses incurred by the Owner for such Work will be deducted monthly from any sums due or which will become due to the Contractor.
- 3.5 Prior to commencing any Work at the site(s) requiring the presence of the Architect or its representative, the Contractor shall notify the Architect in writing at least twenty-four (24) hours in advance of the exact date and time on which it intends to start the Work. In the event that the Contractor fails to meet this Schedule, the Architect's on-site time will be assessed to the Contractor and will be deducted from any sums due or which will become due the Contractor.

4. DRAWINGS AND SPECIFICATIONS

- 4.1 The intent of the Drawings and Specifications is to require that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for proper execution of the Work in accordance with the Contract Documents and all incidental Work necessary to complete the Project in an acceptable manner, ready for use, occupancy or operation by the Owner. Any Work shown on the Drawings, though not mentioned in the Specifications, and any Work mentioned in the Specifications, though not shown on the Drawings, is to be executed by the Contractor as a part of the Work.
- 4.2 In case of a conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scaled dimensions, and detail Drawings govern over general Drawings.
- 4.3 Any discrepancies found between the Drawings and Specifications and site conditions, or any inconsistencies or ambiguities in the Drawings or Specifications, shall be immediately reported to the Architect, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.
- 4.4 Where compliance with two (2) or more industry standards or sets of requirements is indicated, and overlapping of those different standards or requirements establishes two (2) different or conflicting minimums or levels of quality, or quantity, the most stringent requirement (which is generally recognized to be, also, the most costly) is intended and will be enforced, unless specifically detailed language written into the Contract Documents (not by way of reference to an industry standard) clearly indicates that the less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which levels of quality or quantity is the more stringent, to the Architect for a written decision before proceeding.

5. SHOP DRAWINGS

- 5.1 The Contractor shall provide Shop Drawings, as may be necessary for prosecution of the Work, as required by the Contract Documents. The Architect shall promptly review all Shop Drawings. The Architect's approval of any Shop Drawing shall not release the Contractor from its responsibility for deviations from the Contract Documents. A Change Order shall evidence the approval of any Shop Drawings, which substantially deviates from the requirements of the Contract Documents.
- 5.2 When submitted for the Architect's review, Shop Drawings shall bear the Contractor's certification that it has reviewed, checked and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents.

- 5.3 Portions of the Work requiring a Shop Drawing or sample submission shall not begin until the Architect has approved the Shop Drawing or submission. A copy of each approved Shop Drawing and each approved sample shall be kept in good order by the Contractor at the site(s) and shall be available to the Architect.
- 5.4 The Contractor shall submit to the Architect, before any shop work is commenced, four (4) to seven (7) prints [four (4) prints are to be used by the Architect and up to three (3) prints are to be used by the Contractor] of Shop Drawings for all items so stated in the Specifications as requiring Shop Drawings. Additional prints for regulatory agencies shall be submitted when indicated in the Specifications. Standard forms for processing Shop Drawings will be used by the Contractor and furnished to the Contractor by the Architect.
- 5.4.1 No Shop Drawings shall be submitted directly by Subcontractors or Suppliers. All Shop Drawings shall be submitted through the Contractor who shall check and verify all field dimensions, check for compliance with the Contract Documents, stamp and endorse all Shop Drawings to indicate its approval and compliance with the above, and assign a transmittal number to each submission. Numbers shall be assigned in sequence. In the event that a Shop Drawing is returned marked "Amend and Resubmit" or "Rejected", subsequent resubmittals for the same item shall retain the same transmittal number, but shall have an alphabetical suffix (3a, 3b, etc.). At the time of each submission, the Contractor shall in writing call the Architect's attention to any deviations to the Contract Documents.
- 5.4.2 No portion of the Work requiring a Shop Drawing shall be commenced until the Shop Drawing has been reviewed by the Architect. If the first submittal of the Shop Drawing is marked "No Exceptions Taken", "Make Corrections Noted" or "No Action/No Review", up to three (3) prints will be returned to the Contractor and fabrication of the item may begin. If the Shop Drawings are marked "Amend and Resubmit" or "Rejected - See Remarks", up to two (2) prints will be returned to the Contractor with notations thereon of corrections required. The Contractor shall cause the necessary corrections to be made and shall resubmit [four (4) to seven (7) prints (four (4) prints for the Architect and up to three (3) prints for the Contractor] with transmittal numbers and letters, as defined above. If subsequent resubmittals are still not acceptable, resubmittals shall be made under the procedure outlined above until final acceptance is received.
- 5.4.3 The Architect will review Shop Drawings with reasonable promptness, but its review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The acceptance of the separate item, as such, will not indicate acceptance of the assembly in which the item functions. The Contractor shall make any corrections required by the Architect and shall return the required number of corrected copies. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the Architect on previous submissions.
- 5.4.4 The Architect's review of Shop Drawings shall not relieve the Contractor from its responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has in writing called the Architect's attention to such deviations at the time of submission and the Architect has given written acceptance to the specific deviation, nor shall any acceptance by the Architect relieve the Contractor from responsibility for errors or omissions in the Shop Drawings. The final acceptance of Shop Drawings by the Architect shall not operate to relieve the Contractor in any way of its responsibility under this Contract for the satisfactory Completion of the Work, or for the accuracy of the dimensions, details, and quantities or for its Contract. No change shall be made in the accepted Shop Drawings without written consent of the Architect. The Contract Price shall include the cost of furnishing all Shop Drawings, and the Contractor shall be allowed no extra compensation therefor.

5.5 The Contractor shall submit to the Architect for review, with such promptness as to cause no delay in the Work, all samples required by the Contract Documents. All samples shall be checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers, the use for which intended, and the section number and paragraph of the Specification wherein the material is specified. All samples shall be shipped post and/or freight paid.

5.5.1 At the time of each submission, the Contractor shall in writing, call the Architect's attention to the deviations that the samples may have from the requirements of the Contract Documents.

5.5.2 The Architect will review with reasonable promptness submitted samples, but its review shall be only for conformance with the information given in the Contract Documents. The acceptance of a separate item as such will not indicate acceptance of the assembly in which the item functions. In the event samples are not accepted, the Contractor shall resubmit new samples until acceptance is obtained.

5.5.3 No Work requiring sample submission shall be commenced until the Architect has accepted the submission in writing.

5.5.4 The Architect's acceptance of sample(s) shall not relieve the Contractor from its responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has in writing called the Architect's attention to such deviations at the time of submission and the Architect has given written acceptance of the specific deviations.

6. MATERIALS, SERVICES AND FACILITIES

6.1 It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all labor, materials, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the Work within the Contract Time.

6.2 Materials and equipment shall be so stored as to insure the preservation of its quality and fitness for the Work. Stored materials and equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection.

6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

6.4 Materials, supplies, and equipment shall be in accordance with samples submitted by the Contractor and approved by the Architect.

6.5 Materials, supplies, or equipment to be incorporated into the Work shall not be purchased by the Contractor or the Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

6.6 All materials are to be new, unused and the best and of finest quality of their several kinds. The Contractor shall provide facilities and handle all materials as required for the inspection by the Architect. Materials which have not been accepted by the Architect shall be removed from the site(s) of the Work together with all surplus earth and materials which are unsuitable or not in conformity with the Contract Documents. Disposal of materials shall be without expense to the Owner. The Contractor shall promptly replace any materials rejected or condemned, and shall not be allowed extra time for Completion of the Work by reason of such rejection.

7. INSPECTION AND TESTING

7.1 All materials and equipment in the construction of the Project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

- 7.2 The Owner shall provide all inspection and testing services not required by the Contract Documents.
- 7.3 The Contractor shall provide at its expense the testing and inspection services required by the Contract Documents.
- 7.4 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor will give the Architect timely notice of readiness. The Contractor will then furnish the Architect the required certificates of inspection, testing or approval.
- 7.5 Inspections, tests or approvals by the Architect or others shall not relieve the Contractor from the obligation to perform the Work in accordance with the requirements of the Contract Documents. Should inspections or tests reveal defective Work, the defective Work shall be made good and unsuitable materials shall be rejected, notwithstanding that such Work and materials have been previously overlooked and accepted or estimated for payment. If the Work or any part thereof shall be found defective at any time before the final acceptance of the whole Work, the Contractor shall forthwith make good such defect in a manner satisfactory to the Architect. Nothing in this Contract shall be construed as vesting in the Contractor any right or property in the materials used after they have been attached or affixed to the Work or the soil, but all such materials shall, upon being so attached or affixed, become the property of the Owner.
- 7.6 All portions of the Work condemned by the Architect, as failing to conform to the Contract Documents, shall be taken down and removed, and the Contractor shall promptly replace and re-execute the same in accordance therewith and without expense to the Owner and bear the expense of making good all Work or property of other contractors or of the Owner destroyed or damaged by such removal or replacement.
- 7.7 The Architect and its representatives will at all times have access to the Work. In addition, authorized representatives and agents of any participating federal or State agency shall be permitted to inspect all Work, materials, payroll records of personnel, invoices of materials, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and, also, for any inspection or testing thereof.
- 7.8 If any Work is covered contrary to the written instructions of the Architect, it must, if requested by the Architect, be uncovered for its observation and replaced at the Contractor's expense.
- 7.9 If the Architect considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor at the Architect's request, will uncover, expose, or otherwise make available for observation, inspection or testing, as the Architect may require, that portion of the Work in question, furnishing all necessary labor, materials, tools and equipment. If it is found that such Work is defective, the Contractor will bear all expenses of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction. If, however, such Work is found not to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributed to such uncovering, exposure, observation, inspection, testing and reconstruction; and an appropriate Change Order shall be issued.

8. SUBSTITUTIONS

- 8.1 Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalog number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered.
- 8.2 The Contractor may recommend the substitution of a material, article or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalog number; and, if, in the opinion of the Architect, such material, article or piece of equipment is of equal substance and function to that specified, the Architect may approve its substitution and use by the Contractor. Any cost differential shall be deductible

from the Contract Price and the Contract Documents shall be modified by Change Order. The Contractor warrants that, if substitutes are approved, no major changes in the function or general design of the Project will result. Incidental changes or extra component parts required to accommodate the substitution will be made by the Contractor without a change in Contract Price or Contract Time.

9. PATENTS

- 9.1 The Contractor shall pay all applicable royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design or the product of a particular manufacturer or manufacturers is specified. However, if the Contractor has reason to believe that the design, process, or the product specified is an infringement of a patent; the Contractor shall be responsible for such loss unless it promptly gives such information to the Architect.

10. SURVEYS, PERMITS, REGULATIONS

- 10.1 The Owner shall furnish all boundary surveys and establish all baselines for locating the principal component parts of the Work, together with a suitable number of benchmarks adjacent to the Work, as shown in the Contract Documents. From the information provided by the Owner, unless specified in the Contract Documents, the Contractor shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations, and other working points, lines, elevations and cut sheets. The Contractor shall employ, at its expense, a competent surveyor, registered in the State wherein the Work is to be done to perform such duties.
- 10.2 The Contractor shall carefully preserve benchmarks, reference points and stakes and in case of willful or careless destruction shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.
- 10.3 Permits and licenses of a temporary nature necessary for the prosecution of the Work shall be secured and paid for by the Contractor, unless otherwise specified. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall be solely responsible for performing any necessary acts and providing any materials required in order to comply with any and all terms and conditions set forth in any permits and licenses. If the Contractor observes that the Contract Documents are at variance therewith, it shall promptly notify the Architect in writing and any necessary changes shall be adjusted, as provided in Article 13 Changes in the Work.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS

- 11.1 The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor will take all necessary precautions for the safety of, and will provide necessary protection to prevent damage, injury or loss to, all employees on the Work and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site(s), and other property at the site(s) or adjacent thereto, including trees, shrubs, lawns, walks, pavement, roadways, structures and utilities not designated for removal, relocation or replacement during the course of construction. The Contractor shall be responsible for and pay for all loss or damage to materials and property, whether such are incorporated in, or to be incorporated in, the Work. The Contractor shall also replace or restore to original condition man-made or natural improvements or other things injured or interfered with by the Contractor in carrying out the Work. Adequate weather protection of all materials and structures of this Project shall be the duty of the Contractor.
- 11.2 The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. It will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. It will notify owners of adjacent utilities when prosecution of the Work may affect them. The Contractor will

remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, or anyone directly or indirectly employed by them, or anyone for whose acts any of them may be liable, except damage or loss attributable to the fault of the Contract Documents, or to acts or omissions of the Owner or the Architect, or anyone employed by either of them or anyone for whose acts either of them may be liable and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

- 11.3 In emergencies affecting the safety of persons or the Work or property at the site(s) or adjacent thereto, the Contractor, without special instruction or authorization from the Architect or Owner, shall act to prevent threatened damage, injury or loss. The Contractor will give the Architect prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall be issued covering the changes and deviations involved.

11.4 HAZARDOUS MATERIAL

- 11.4.1. If at any time during construction the presence of unanticipated hazardous materials at or proximate to a construction site(s) is detected, the Contractor shall stop Work in the affected area and perform the following immediately:
- a. Notify the Owner in writing.
 - b. Take all action necessary and appropriate for the protection and safety of the public and persons at or about the site(s), including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.
 - c. Notify the respective State agency responsible for hazardous waste and receive instructions as to the appropriate measures to be taken while working in that area.
 - d. Notify the designated representative of the respective State agency having financial, license or permit and/or technical jurisdiction for this Project, or other appropriate State program director/administrator in writing mailed within 48 hours following discovery of the suspected hazardous materials.
 - e. Notify the local hazardous waste coordinator.
- 11.4.2. Actions at the construction site(s) following completion of these steps shall be at the direction of the State agency responsible for hazardous waste. Nothing in this Article shall be construed to require the Architect and/or the Contractor to perform Work for which adequate compensation has not been contracted for other than to insure that basic measures necessary to protect the health and welfare of workers, residents and abutters are immediately adopted.
- 11.4.3. At the construction site(s) where the presence of contaminated or hazardous materials are suspected to exist, and provisions have been made in the Contract Documents for their management, the requirements of Paragraph 11.4.1 of this Article shall apply.

12. SUPERVISION BY CONTRACTOR

- 12.1 The Contractor will supervise and direct the Work. The Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site(s). The supervisor/superintendent shall have full authority to act on behalf of the Contractor, and all communications given to the supervisor/superintendent shall be as binding as if given to the Contractor. The supervisor/superintendent shall be present on the site(s) at all times, as required, to perform adequate supervision and coordination of the Work.

- 12.2 The Contractor shall employ only competent workers; and, whenever the Architect shall notify the Contractor in writing that any person on the Work is, in its opinion, incompetent, unfaithful, disorderly or otherwise unsatisfactory or not employed in accordance with the provisions of this Contract, such person shall be discharged from the Work and shall not again be employed on it except with the consent of the Architect.

13. CHANGES IN THE WORK

- 13.1 The Owner may at any time, as the need arises, order changes within the scope of the Work without invalidating the Contract. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the Work, a Change Order shall authorize an equitable adjustment. The Owner must confirm in writing any explanation or interpretation of Drawings or Specifications altering or varying the Work, made by an employee of the Owner, before such changed Work is acted upon by the Contractor.
- 13.2 The Architect, also, may at any time by issuing a Field Order make changes in the details of the Work. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Architect, unless the Contractor believes that such Field Order entitles the Contractor to a change in the Contract Price, or time, or both, in which event the Contractor shall give the Architect written notice thereof within seven (7) days after receipt of the ordered change. Thereafter, the Contractor shall document the basis for the change in Contract Price or time within thirty (30) days. The Contractor shall not execute such changes pending receipt of an executed Change Order or further instruction from the Owner.

14. CHANGES IN CONTRACT PRICE

- 14.1 The Contract Price may be changed only by a Change Order. The value of any Work covered by a Change Order, or of any claim for increase or decrease in the Contract Price, shall be determined by one (1) or more of the following methods in order of precedence listed below:
- (a) Unit prices previously approved.
 - (b) An agreed lump sum.
 - (c) The actual cost for labor, direct overhead, materials, supplies, equipment and other services necessary to complete the Work, computed as follows:
 - (1) The reasonable cost of labor employed directly on the Work at prevailing rates of wages.
 - (2) The cost of Worker's Compensation Insurance, Federal Social Security and State Unemployment Compensation on Item (1) at established rates.
 - (3) The reasonable cost of materials incorporated in the Work.
 - (4) The reasonable cost at fair market rental rates for equipment employed directly on the Work.
 - (5) Fifteen (15) percent of Items (1), (2), (3) and (4) for overhead, superintendence and profit. On subcontract Work, this fifteen (15) percent will be allowed only to the Subcontractor.
 - (6) An additional five (5) percent of Items (1), (2), (3) and (4) on Work performed by a Subcontractor of the Contractor. This five (5) percent includes overhead, superintendence, profit and bonds.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- 15.1 The date of commencement and the time for Substantial Completion and Completion of the Work are essential conditions of the Contract Documents, and the Work embraced shall be commenced on a date specified in the Notice to Proceed.

- 15.2 The Contractor will proceed with the Work at such rate of progress to insure both Substantial Completion and full Completion within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time allowed to achieve Substantial Completion and the Contract Time for Completion of the Work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Work.
- 15.3 If the Contractor shall fail to achieve Substantial Completion or Completion within the specified time(s) or extension of time(s) granted by the Owner, then the Contractor will pay to the Owner the amount for Liquidated Damages, as specified in the Contract Documents, for each calendar day and/or working day that the Contractor shall be in default after the time(s) stipulated.
- 15.4 The Contractor shall not be charged with Liquidated Damages or any excess cost, when the delay in Completion of the Work is due to the following, and the Contractor has promptly given written notice of such delay to the Owner or Architect:
- 15.4.1 To any preference, priority or allocation order duly issued by the Owner;
- 15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and
- 15.4.3 To any delays of Subcontractors occasioned by any of the causes specified in Paragraphs 15.4.1 and 15.4.2 of this Article.

16. CORRECTION OF WORK

- 16.1 The Contractor shall promptly remove from the premises all Work rejected by the Architect for failure to comply with the Contract Documents, whether incorporated in the construction or not; and the Contractor shall promptly replace and re-execute the Work in accordance with the Contract Documents and without expense to the Owner. The Contractor shall bear the expense of making good all Work of other contractors by such removal and replacement of all destroyed or damaged Work.
- 16.2 All removal and replacement Work shall be done at the Contractor's expense. If the Contractor does not take action to remove and replace such rejected Work within five (5) days after receipt of written notice, the Owner may remove such Work and store the materials at the expense of the Contractor.

17. SUBSURFACE CONDITIONS

- 17.1 The Contractor shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the Owner by written notice of:
- 17.1.1 Subsurface or latent physical conditions at the site(s) differing materially from those indicated in the Contract Documents, or
- 17.1.2 Unknown physical conditions at the site(s) of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the Contract Documents.
- 17.2 The Owner shall promptly investigate the conditions; and, if it finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the Work, an equitable adjustment shall be made and the Contract Documents shall be modified by a Change Order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless the Contractor has given the required written notice, provided that the Owner may, if the Contractor determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

- 18.1 The Owner may suspend the Work, or any portion thereof, for a period of not more than ninety (90) calendar days or such further time, as agreed upon by the Contractor, by written notice to the Contractor and the Architect, which notice shall fix the date on which the Work shall be resumed. The Contractor will resume that Work on the date so fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension.
- 18.2 If the Contractor is adjudged bankrupt or insolvent, or if the Contractor makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property, or if the Contractor files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or other applicable laws, or if the Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if the Contractor repeatedly fails to make prompt payments to Subcontractors or for labor, materials, or equipment, or if the Contractor disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the Work, or if the Contractor disregards the authority of the Architect, or if the Contractor otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and its surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the Contractor and take possession of the Project and of all materials, tools, equipment, construction equipment and machinery thereon owned by the Contractor, and finish the Work by whatever method it may deem expedient.
- 18.3 In such case the Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor will pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Architect and incorporated in a Change Order.
- 18.4 Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any right of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from compliance with the Contract Documents.
- 18.5 After ten (10) days from delivery of a written notice to the Contractor and the Architect, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Contract. In such case, the Contractor shall be paid for all Work satisfactorily executed and any expense sustained plus reasonable profit.
- 18.6 If, through no act or fault of the Contractor, the Work is suspended for a period of more than ninety (90) calendar days by the Owner or under an order of court or other public authority, or the Architect fails to act on any request for payment within thirty (30) days after it is submitted, or the Owner fails to pay the Contractor substantially the sum approved by the Architect or awarded by arbitrators within thirty (30) days of its approval and presentation, then the Contractor may, after ten (10) days from delivery of a written notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for all Work executed and all expenses sustained. In addition and in lieu of terminating the Contract, if the Architect has failed to act on a request for payment or if the Owner has failed to make any payment as aforesaid, the Contractor may upon ten (10) days written notice to the Owner and the Architect stop the Work until the Contractor has been paid all amounts then due, in which event and upon resumption of Work, a Change Order shall be issued for adjusting the Contract Price or extending the Contract Time or both to compensate for the costs and delays attributable to the stoppage of the Work.
- 18.7 If the performance of all or any portion of the Work is suspended, delayed, or interrupted, as a result of a failure of the Owner or the Architect to act within the time specified in the Contract Documents, or if no time is specified, within a reasonable time an adjustment in the Contract Price and extension of the Contract Time, or both, shall be made by a Change Order to compensate the Contractor for the costs and delays necessarily caused by the failure of the

Owner or the Architect.

18.8 PAYMENTS TO CONTRACTOR

18.9 At least ten (10) days before each progress payment falls due (but not more often than once a month), the Contractor will submit to the Architect a partial payment estimate filled out and signed by the Contractor covering the Work performed during the period covered by the partial payment estimate and supported by such data as the Architect may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site(s), the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the Owner, as will establish the Owner's title to the material and equipment and protect its interest therein, including applicable insurance. Payments to the Contractor are governed by Massachusetts General Law, Chapter 30, Section 39G and are recited in full in Document 00855, Special Conditions, Commonwealth of Massachusetts.

18.10 Prior to Substantial Completion, the Owner with the approval of the Architect and with the concurrence of the Contractor may use any substantially completed portions of the Work. Such use shall not constitute an acceptance of such portions of the Work.

18.11 The Owner shall have the right to enter the premises for the purpose of doing Work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work except such as may be caused by agents or employees of the Owner.

18.12 The Contractor will indemnify and save the Owner or the Owner's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of Work. The Contractor shall at the Owner's request furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived.

19. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

19.1 The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability of the Contractor other than claims in stated amounts, as may be specifically accepted by the Contractor, for all things done or furnished in connection with this Work and for every act and neglect of the Owner and others relating to or arising out of this Work. Any payment, however final or otherwise, shall not release the Contractor or its sureties from any obligations under the Contract Documents or the performance bond and payment bond.

20. INSURANCE

20.1 Refer to General Requirements for INSURANCE REQUIREMENTS.

21. CONTRACT SECURITY

21.1 The Contractor shall within ten (10) days after receipt of the Notice Of Award furnish the Owner with a performance bond and payment bond in penal sums equal to the amount of the Contract Price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions, and agreements of the Contract Documents and upon prompt payment by the Contractor to all persons supplying labor and materials in the prosecution of the Work provided by the Contract Documents. Such bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the State in which the Work is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds", as published in the U.S. Treasury Department Circular Number 570. The expense of these bonds shall be borne by the Contractor. If at any time a surety on any such bonds is declared bankrupt or loses its right to do business in the State in which the Work is to be performed or is removed from the list of Surety Companies Acceptable on Federal Bonds, the Contractor shall, within ten (10) days substitute an acceptable bond(s) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond(s) shall be paid by the Contractor. No further payments to the Contractor shall be deemed due nor shall any be made until the new surety or sureties shall

have furnished an acceptable bond(s) to the Owner.

22. ASSIGNMENTS

- 22.1 Neither the Contractor nor the Owner shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of its right, title or interest therein, or its obligations thereunder without written consent of the other party.

23. INDEMNIFICATION

- 23.1 The Contractor will indemnify and hold harmless the Owner and the Architect and their agents and employees from and against all claims, damages, losses, and expenses, including attorney's fees, arising out of or resulting from the performance of the Work, provided that any such claims, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom and is caused in whole or in part by any negligent or willful act or omission of the Contractor and Subcontractor(s), anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.
- 23.2 In any and all claims against the Owner or the Architect, or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor under Worker's Compensation Acts, Disability Benefit Acts, or other employee benefit acts.
- 23.3 The obligation of the Contractor under this Article shall not extend to the liability of the Architect, its agents or employees, arising out of the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications.
- 23.4 The Contractor will indemnify and save the Owner or the Owner's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnisher of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived.

24. SEPARATE CONTRACTS

- 24.1 The Owner reserves the right to let other contracts in connection with this Project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their Work, and shall promptly connect and coordinate Work with theirs. If the proper execution or results of any part of the Contractor's Work depends upon the Work of any other contractor, the Contractor shall inspect and promptly report to the Architect any defects in such Work that render it unsuitable for such proper execution and results.
- 24.2 The Owner may perform additional Work related to the Project or let other contracts containing provisions similar to these. The Contractor will afford the other contractors who are parties to such contracts (or the Owner, if performing the additional Work itself) reasonable opportunity for the introduction and storage of materials and equipment, and the execution of Work, and shall properly connect and coordinate Work with theirs.
- 24.3 If the performance of additional Work by other contractors or the Owner is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional Work. If the Contractor believes that the performance of such additional Work by the Owner or others involves the Contractor in additional expense, or entitles the Contractor to an extension of the Contract Time, the Contractor may make a claim therefor, as provided in Articles 14 and 15.

24.4 The Owner shall have the right to enter the premises for the purpose of doing Work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work, except such as may be caused by agents or employees of the Owner.

25. SUBCONTRACTING

25.1 The Contractor may utilize the services of specialty Subcontractors on those parts of the Work, which under normal contracting practices are performed, by specialty Subcontractors.

25.2 The Contractor shall not award Work to Subcontractor(s) in excess of fifty (50) percent of the Contract Price without prior written approval of the Owner.

25.3 The Contractor shall be fully responsible to the Owner for the acts and omissions of its Subcontractors, and of persons either directly or indirectly employed by them, as they are for the acts and omissions of persons directly employed by them.

25.4 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the Work of Subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

25.5 Nothing contained in this Contract shall create any contractual relation between any Subcontractor and the Owner.

26. ARCHITECT'S AUTHORITY

26.1 The Architect may act as the Owner's representative during the construction period. The Architect shall decide questions that may arise as to quality and acceptability of materials furnished and Work performed. The Architect shall interpret the intent of the Contract Documents in a fair and unbiased manner. The Architect will make visits to the site(s) and determine if the Work is proceeding in accordance with the Contract Documents.

26.2 The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of materials, workmanship and execution of the Work. Inspections may be made at the factory or fabrication plant of the source of material supply.

26.3 The Architect will not be responsible for the construction means, controls, techniques, sequences, procedures or construction safety.

26.4 The Architect shall promptly make decisions relative to interpretation of the Contract Documents.

27. LAND AND RIGHTS-OF-WAY

27.1 Prior to issuance of the Notice to Proceed, the Owner shall obtain all land and rights-of-way necessary for carrying out and for the Completion of the Work to be performed pursuant to the Contract Documents, unless otherwise mutually agreed.

27.2 The Owner shall provide to the Contractor information, which delineates and describes the lands owned and rights-of-way or right-of-entries acquired.

27.3 The Contractor shall provide at the Contractor's expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities or for storage of materials.

28. GUARANTY

28.1 The Contractor shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of Substantial Completion. The Contractor warrants and guarantees for a period of one (1) year from the date of Substantial Completion of the system that the completed system is free from all defects due to faulty materials or workmanship; and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such

defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other Work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

29. CLAIMS AND DISPUTES

29.1 All claims, disputes and other matters in question arising out of, or relating to, the Contract Documents or the breach thereof, except for claims that have been waived by the making and acceptance of final payment as provided by Article 20, shall be entered into a court of competent jurisdiction within the State where the Work is located.

29.2 The Contractor will carry on the Work and maintain the progress schedule during any disputes and other matters in question arising out of, or relating to, the Contract Documents or the breach thereof, unless otherwise mutually agreed in writing.

30. TAXES

30.1 The Contractor is an exempt purchaser under the Massachusetts Sales Act, Chapter 14 of the Acts of 1966, to the extent that materials and supplies are used or incorporated in the performance of the Contract. The Contractor shall obtain from the Owner an exemption certificate number to be used in lieu of paying the tax on exempted items.

31. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

31.1 The Specifications and Drawings are intended to describe and provide for a completed Project. They are intended to be complementary, and what is called for by either shall be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and the Contractor shall provide all labor and materials necessary for the entire Completion of the Work intended to be described.

32. SITE REGULATIONS

32.1 On or before the Completion of the Work, the Contractor shall without charge therefor tear down and remove all buildings and other temporary structures built by the Contractor, and shall remove and legally dispose of surplus material and rubbish of all kinds from any ground which it has occupied and shall leave the Work, grounds and surroundings in a clean and neat condition.

32.2 Tobacco, Drugs and Liquor Prohibited. The Contractor shall neither permit nor suffer smoking where it creates a hazard nor the introduction or use of drugs, spirituous or intoxicating liquors upon or about the Work embraced in this Contract or upon any of the ground occupied by the Contractor.

32.3 Posters. The Contractor shall not permit or suffer any placards, posters or advertisements to be displayed on or about the premises unless approved by the Owner.

33. LIMITATIONS OF DATA PRESENTED

33.1 Drawings, surveys, measurements, dimensions, calculations, estimates, borings and statements as to the condition under which the Work is to be performed are believed to be correct.

33.2 The Bidder shall carefully examine the Contract Documents, including all Drawings, Specifications and Addenda, shall visit the site(s) and shall satisfy itself as to the type and quantity of the Work to be performed. For the purposes of comparing several proposals, the Bid shall be based on the data presented and the Bidder's examination of the site(s).

33.3 The locations of all utilities are obtained from the best available sources and are to be

considered as approximate insofar as size, location and elevation are concerned. Furthermore, it is expressly understood that there may be utilities in existence other than those shown on the Drawings.

34. HEALTH AND SAFETY EQUIPMENT

- 34.1 As provided for in Article 11, the Contractor is responsible for establishing and maintaining a health and safety program throughout the course of the Project so as to meet all Local, State, Federal and OSHA requirements.
- 34.2 In order for the Owner and/or Architect to observe the Work, the Contractor shall provide health and safety equipment for such purposes. Such equipment shall specifically include, but not necessarily be limited thereto, the following:
 - 34.2.1 Ear plugs in sufficient quantities
 - 34.2.2 Headset protective hearing devices
 - 34.2.3 Safety glasses/goggles
 - 34.2.4 3-way gas detector meter with lights and alarm (hydrogen sulfide, combustible gases and oxygen deficiency)
 - 34.2.5 Tripod (mechanical crank type especially designed and equipped for lifting personnel in and out of confined spaces)
 - 34.2.6 Ropes and harnesses
 - 34.2.7 Disposable coveralls/protective clothing/gloves in sufficient quantity and sizes
 - 34.2.8 Ventilating equipment for confined spaces
 - 34.2.9 Self-contained breathing apparatus (SCBA)
- 34.3 All of the above equipment shall be continuously provided at the worksite(s) and maintained in good working order (including manufacture's recommended maintenance and calibration of the 3-way gas detector and SCBA equipment). It is understood that such equipment shall remain the property of the Contractor and is in addition to any and all health and safety equipment that the Contractor is required to have for the Contractor's health and safety program on-site.
- 34.4 The Contractor is advised that the Owner has clearly established on-going Confined Space and Lock-out/Tag-out programs. Where the Contractor's Work requires confined space entry into existing facilities and/or lock-out/tag-out of existing equipment and electrical controls, the Contractor shall strictly abide by the Owner's programs if they are more stringent than the Contractor's own procedures.

END OF SECTION

SPECIAL CONDITIONS - GENERAL

1.01 Statutory Requirements in General

- A. The Contractor shall keep himself fully informed of all existing and future State and National Laws and municipal ordinances and regulations in any manner affecting those engaged or employed in the Work, or the materials used or employed in the Work, or in any way affecting the conduct of the Work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same and of all provisions required by law to be made a part of this Contract, all of which provisions are hereby incorporated by reference and made a part thereof. If any discrepancy or inconsistency is discovered in the drawings or specifications or Contract for this Work in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same to the Architect in writing. He shall at all times himself observe and comply with, and shall cause all his agents and employees to observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees; and shall protect and indemnify the Owner and Architect and all of its and their officers, agents, and servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees or subcontractors.
- B. All materials furnished and Works done are to comply with all state and federal laws and regulations.

1.02 Police Officers

- A. Any police officers, reserve, special or otherwise, employed by the Contractor, shall be paid the prevailing wage rates paid to regular police officers of the municipality in which the Work is to be performed. When requesting police detail the bidder must give the project name and the Ipswich Public Schools (IPS) as the information it should be billed under.
- B. The Contractor will commence the work required by the Contract Documents within 10 calendar days after a date to be specified in the NOTICE TO PROCEED and will complete the project under this contract as indicated herein.
- C. The total time period for completion of work required under this contract is the time frame agreed upon between the Contractor and IPS for the project. The agreed upon time frame will be documented, confirmed, and signed by both the IPS and Contractor prior to notice to proceed. Work performed beyond the agreed upon timeframe for the project will be subject to liquidated damages in the amount specified herein.
- D. Work performed beyond this Contract Time period (Completion) will be subject to liquidated damages. The Contractor agrees to pay as liquidated damages the sum of \$1,000.00 for each consecutive calendar day and \$1,000.00 for each working day thereafter as provided in Article 15 of the GENERAL CONDITIONS.
- E. The Contractor agrees to perform all of the work described in the Contract Documents and comply with the terms therein for the sums shown in the BID FORM.
- F. The Contractor agrees that the "direct labor mark-up" rate for any change order work performed under this Agreement will be 15 percent. The "direct labor mark-up" rate shall account for the cost of Worker's Compensation Insurance, Federal Social Security and State Unemployment Compensation as described in the GENERAL CONDITIONS, ARTICLE 14.1(c) (2), CHANGES IN CONTRACT PRICE.
- G. The Contractor shall not discriminate against or exclude any person from participation herein on grounds of race, religion, color, sex, age, or national origin; and that it shall take affirmative actions to insure that applicants are employed, and that employees are treated during their employment, without regard to race, religion, color, sex, age, handicapped status, or national origin.

- H. The Contractor shall not participate in or cooperate with an international boycott, as defined in Section 999 (b) (3) and (4) of the Internal Revenue Code of 1954, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.
- I. Article XII of the "Commonwealth of Massachusetts Modified Supplemental Equal Opportunity Anti-discrimination and Affirmative Action Program" requires that the Contractor's certification form, which must be signed by the successful low bidder prior to award by the contracting agency, must appear in the Contract and the subcontractors certification form, which must be signed by the prospective subcontractor(s) must be submitted to the Contractor and included in the subcontract.
- J. The term "Contract Documents" means and includes the following:
 - (A) Advertisement for Bids
 - (B) Information for Bidders
 - (C) Bid Form
 - (D) Bid Bond
 - (E) Certification Regarding Payment of Prevailing Wages
 - (F) Statement of Tax Compliance
 - (G) Bidders Qualification Form
 - (H) Notice of Award
 - (I) Form for Agreement
 - (J) Payment Bond
 - (K) Performance Bond
 - (L) Notice to Proceed
 - (M) General Conditions
 - (N) Change Order Form
 - (O) Certificate of Substantial Completion
 - (P) Waiver of Liens
 - (Q) Certificate of Final Payment and Completion of Work
 - (R) Documents and Specifications
 - (S) Addenda
- K. The Owner will pay to the Contractor in the manner and at such times as set forth in the Contract Conditions such amounts as required by the Contract Documents.
- L. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

END OF SECTION

PREVAILING WAGES and LABOR REGULATIONS

1. PREVAILING WAGE RATES

- A. The rate per hour to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the Work shall not be less than the rate of wages in the attached "Minimum Wage Rates" as determined by the Commissioner of the Massachusetts Department of Labor Division of Occupational Safety. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract. Any questions relative to the applicability of any wage rate shall be directed to the Division of Occupational Safety.
- B. Keep a legible copy of said schedule posted on the site at all times. Provide the Owner, on a weekly basis, and keep an on-site file of the wage rates and classifications of labor employed on this Work in order that they may be available for inspection by the Owner, Department, Architect, or any agency having jurisdiction.
- C. Pay reserve police officers employed on the Work the prevailing rate of wages paid to regular police officers as required by MGL c149 § 34B, as amended. Such police officers shall be covered by Worker's Compensation Insurance and Employers Liability Insurance provided by the Contractor.

2. WAGE RATE REPORTING

- A. The Contractor and all subcontractors shall provide certified payroll affidavits verifying compliance with MGL c.149 §§26 - 27H.
- B. The Contractor and all subcontractors shall provide a Statement of Compliance within 15 days of the completion of its portion of the work. This statement shall be submitted to the Awarding Authority.

3. APPRENTICE REQUIREMENTS

- A. Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council wherever rates for journeymen or apprentices are not listed.

4. EMPLOYEE OSHA SAFETY TRAINING

- A. All employees who work on this construction site must have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004.
- B. The Contractor and all Subcontractors shall furnish to the Owner, with the certified payroll reports, documentation indicating that each employee has successfully completed 10 hours of a course in construction safety and health. This course must be approved by the United States Occupational Health and Safety Administration (OSHA).

5. REQUEST PREVAILING WAGE RATES

To request the Massachusetts prevailing wage rates for this project, please email said request to Thomas Markham, Director of Finance & Operations, Ipswich Public Schools, at tmarkham@ipsk12.net. Prevailing Wage rate sheets for job titles associated with the type of work shall be provided within 24 hours of request.

END OF SECTION

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

STATEMENT OF COMPLIANCE

_____, 20____

I, _____,
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____

Title _____

[illegible]

YES ☐ NO ☐

by the Massachusetts Department of Labor
Standards / Division of Apprentice Standards.

No apprentices are identified above

NOTE: Pursuant to MGL c. 149, s. 27B, every contractor and subcontractor is required to submit a **true and accurate** copy of their certified weekly payroll records to the awarding authority by first-class mail or e-mail. In addition, each weekly payroll must be accompanied by a statement of compliance signed by the employer. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

Page _____ of _____

Date Received by Awarding Authority / /
--

PROJECT SECTION 1

SUMMARY OF WORK

1. GENERAL SCOPE OF WORK

A. The Work under the Contract consists of:

1. All Work either shown on the Drawings or included in the Specifications unless specifically indicated as not to be done.
2. Without limiting the generality thereof, furnishing all labor and material for the Single Ply Roof Replacement at the Ipswich Doyon School Roof as shown the drawings, including but not limited to the following:
 - a. Furnish all labor, materials, equipment, and related services needed and install KEE thermoplastic membrane in membrane adhesive, fascia and flashing and new gutter necessary to satisfactorily complete the entire work.

B. In addition, the Work under the Contract includes:

1. Work outside the Project Site as called for in the Contract Documents and as required for the performance of the Work.
2. The restoration of any items damaged or destroyed by encroaching upon areas outside the Project Site.
3. Providing and restoring, where appropriate, all temporary facilities.
4. GRAVEL REMOVAL WORK MUST BE PERFORMED ON WEEKENDS ONLY. EXISTING STONE BALLAST TO BE RE-USED ON ROOF AREAS AS INDICATED.

C. The site/building and adjacent site/buildings will be occupied during construction. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction.

D. The Work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary Work requirements within a minimum period of time.

E. The Contractor is responsible for the security of partially completed Work until the Final Acceptance of Work by the Awarding Authority.

F. Only materials and/or equipment intended and necessary for immediate use shall be brought into the Project area. At the end of each workday and at the completion of each phase of Work, equipment and leftover or unused materials shall be removed from the area.

G. Smoking is not permitted on site or in buildings/facilities.

2. TIME OF COMPLETION

A. In accordance with the General Conditions, the Work shall start as stated in the Notice to Proceed and shall be complete by **December 31, 2025**.

3. CONTRACTORS USE OF PREMISES

A. General: During the construction period, the contractor shall have limited use of the premises for construction operations.

B. Roof Access: The contractor shall be responsible for roof access at the buildings.

- C.** Use of the Sites: Limit use of the sites to the immediate vicinity of the work. Do not disturb portions of the sites beyond the work areas.
- D.** Keep driveways, entrances and parking areas serving the premises and entrances to the buildings clear and available to the owner, the owners' employees, tenants, and emergency vehicles at all times.

4. PHASING

- A.** At the pre-construction meeting, the Contractor shall submit a construction schedule showing the proposed schedule for the Work as noted on the phasing plan drawings. The Awarding Authority and Prime Designer will work with the Contractor to ensure proper coordination.
- B.** The building/site will be occupied during the construction until final acceptance of the Work. Safety is of paramount importance on this Project. The Contractor must take measure to maintain a clean work site and to secure the site in a safe manner for the public, tenants, and property at all times.

END OF SECTION

PROJECT SECTION 2 CONDUCT OF THE WORK

1. GENERAL PROVISIONS

- A. The Conditions of the Contract and other Sections of Division I, General Requirements apply to this section.

2. PROJECT MANAGEMENT

- A. The Contractor's attention is directed to Clause 2 of the General Conditions.
- B. The buildings will be occupied during construction. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction.
- C. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary work requirements within a minimum period of time.
- D. Unless specifically authorized by the Owner, in writing, the work must be conducted between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday and 7:00 a.m. and 3 p.m. on weekends. No work is to be done on holidays, other than for emergencies.
- E. The Contractor is responsible for the security of partially completed work until the project is accepted by the Owner.
- F. There shall be no storage of materials, tools, and/or equipment within the buildings. Any storage within the buildings must be authorized by the Owner, in writing.
- G. Only materials and/or equipment intended and necessary for immediate use shall be brought onto the site and/or building. At the end of each work day and at the completion of each phase of work, equipment and leftover or unused materials shall be removed from the site and/or building.
- H. Workers shall refrain from smoking while performing work inside the buildings. The Contractor shall remove from the project workers who consistently violate this provision.

3. SHUTDOWN OF SERVICES

- A. The Contractor's attention is especially called to the fact that the continuous operation of services for this housing development is mandatory. If the development is to be left without heat, hot water, domestic water, electricity, gas, sanitary facilities or any other services for more than an eight hour period, the Contractor shall submit a letter and obtain written approval from the Owner before proceeding. If the Owner will not allow this shutdown, but wants instead a temporary means of supplying said services, the Contractor shall supply all labor, materials or whatever may be required to supply said temporary services at no extra cost to the Owner and in accordance with the state and local regulations on health and safety.

4. COORDINATION

- A. The Contractor shall submit for approval to the Owner a detailed operational plan showing the sequence of operations prior to commencement of any work at the site. The Owner must approve any changes to this operational plan.
- B. The Contractor must retain on the Work during its progress a competent full time representative, satisfactory to the Owner. This representative shall not be changed, except with the consent of the Owner. The representative shall be in full charge of the work and all instructions given to this person by the Architect shall be binding.
- C. The Contractor must supply to the Owner the home telephone number of a responsible person who may be contacted during non-work-hours for emergencies on the Project.
- D. Whenever work is to be done inside the building the Contractor's superintendent and an owner's representative shall conduct a pre-work inspection to make note of existing conditions. Special attention should be paid to areas where new work will meet existing conditions.

5. OWNER'S COOPERATION

- A.** The Owner shall assist the Contractor to perform the Work in accordance with the approved operational plan by removing obstructions that may be in the Contractor's way, upon proper notice from the Contractor.

6. RETAINED ITEMS

- A.** The following items which are to be removed and are in good condition shall be retained by the Owner (at the discretion of the Owner) and shall be stored at a location directed by the Owner.
 - (1.)** Not applicable.

END OF SECTION

PROJECT SECTION 3

SUBMITTALS - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1. RELATED DOCUMENTS

- A. This Section supplements the General Conditions.
- B. Consult the individual sections of the specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

2. GENERAL PROCEDURES FOR SUBMITTALS

- A. **Timeliness** - The Contractor shall transmit each submittal to the Architect sufficiently in advance of performing related Work or other applicable activities so that the installation is not delayed by processing times, including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Architect in advance of the Work.
- B. **Sequence** - The Contractor shall transmit each submittal in a sequence which will not result in the Architect's approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.
- C. **Contractor's Review and Approval** - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To", "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section, or Drawing No. to which the submittal refers, purpose (first submittal, resubmittal), description, remarks, distribution record, and signature of transmitter.
- D. **Architect's Action** - The Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:
 - (1.) **Final Unrestricted Release:** Where marked "Approved" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
 - (2.) **Final-But-Restricted Release:** When marked "Approved as Noted" the Work may proceed provided it complies with the Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend on these compliances.
 - (3.) **Returned for Resubmittal:** When marked "Revise and Resubmit" or "Disapproved" the Work covered by the submittal (such as purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new submittal resubmitted without delay, in accordance with the Architect's notations stating the reasons for returning the submittal.
- E. **Processing** - All costs for printing, preparing, packaging, submitting, resubmitting, and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.

3. OR EQUALS

- A. **Definition** - Whenever a specification section names one or more brands for a given item, and the Contractor wishes to submit, for consideration, another brand, the submission shall be considered an "or-equal" or a "material substitution". For the purposes of this Contract, the terms "or-equal" and "material substitution" shall be considered synonymous.
- B. In no case may an item be furnished on the Work other than the item named or described, unless the Architect shall consider the item equal to the Item so named or described, as provided by M.G.L. c.30 § 39M.
- C. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Architect at the expense of the Contractor submitting the substitution.

- D. The Architect may require that full size samples of both the specified and proposed products be submitted for review and evaluation. The Contractor shall bear full cost for providing, delivering, and disposal of all such samples.
- E. The Contractor shall assume full responsibility for the performance of any item submitted as an "Or-Equal" and assume the costs of any changes in any Work that may be caused by such substitution.
- F. **Or Equal Approval Process** - On the transmittal, or on a separate sheet attached to the submission, the Contractor shall direct attention to any deviations, including minor limitations and variations, from the Contract Documents.
 - (1.) The Contractor shall submit to the Architect for consideration of any or-equal substitution a written point-by-point comparison containing the name and full particulars of the proposed product and the product named or described in the Contract Documents.
 - (2.) Such submittal shall in no event be made later than 120 calendar days prior to the incorporation of the item into the Work. In any case in which the time period specified in the Contract Documents from the Notice to Proceed to Substantial Completion is less than 120 days, this requirement can be waived by the Architect.
 - (3.) Upon receipt of a written request for approval of an or-equal substitution, the Architect shall investigate whether the proposed item shall be considered equal to the item named or described in the Contract Documents. Upon conclusion of the investigation, the Architect shall promptly advise the Contractor that the item is, or is not, considered acceptable as an Or-Equal substitution.

4. **SUBMISSION OF SHOP DRAWINGS**

- A. Shop Drawings shall be complete, giving all information necessary or requested in the individual section of the specifications. They shall also show adjoining Work and details of connection thereto.
- B. Shop Drawings shall be for whole systems. Partial submissions will not be accepted.
- C. The Architect reserves the right to review and approve shop drawings only after approval of related product data and samples.
- D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Architect's stamp.
- E. The Contractor shall submit to the Architect one legible, reproducible transparency and two black line prints of each shop drawing. Transparency and prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.
- F. When the Architect returns a transparency with the stamp "Revise and Resubmit" or "Disapproved", the Contractor shall correct the original drawing or prepare a new drawing and resubmit a transparency and two prints thereof to the Architect for approval. This procedure shall be repeated until the Architect's approval is obtained.
- G. When the Architect returns a transparency with the stamp "Approved" or "Approved as Corrected", the Contractor shall provide and distribute the prints for all Contractor and Subcontractors use, and in addition submit, within 10 calendar days after approval, 4 prints to the Architect.
- H. The Contractor shall maintain one full set of approved shop drawings at the site.

5. **SUBMISSION OF PRODUCT DATA**

- A. The Contractor shall submit 7 copies of Product Data to the Architect. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.
- B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not impair legibility.
- C. Product Data returned by the Architect as "Disapproved" shall be resubmitted in 7 copies until the Architect's approval is obtained.

- D. When the Product Data are acceptable, the Architect will stamp them "Approved" or "Approved as Corrected", retain 3 copies, and return 4 copies to the Contractor. The Contractor shall provide and distribute additional copies as may be required to complete the Work.
- E. The Contractor shall maintain one full set of approved, original, Product Data at the site.

6. SUBMISSION OF SAMPLES

- A. Unless otherwise specified in the individual section, the Contractor shall submit two specimens of each sample.
- B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved on the Work.
- C. Samples of items of interior finishes shall be submitted all at once to permit a coordinated selection of colors and finishes.
- D. Samples that can be conveniently mailed shall be sent directly to the Architect, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.
- E. All other samples shall be delivered at the field office of the Project Representative with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Architect.
- F. If a sample is rejected by the Architect, a new sample shall be resubmitted in the manner specified hereinabove. This procedure shall be repeated until the sample is approved by the Architect.
- G. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the specifications, at no additional cost to the Owner.

END OF SECTION

PROJECT SECTION 4 TEMPORARY FACILITIES

1. GENERAL REQUIREMENTS

- A.** The Contractor shall be responsible for providing and maintaining all temporary facilities until Substantial Completion. Removal of such prior to Substantial Completion must be with the concurrence of the Architect. The Contractor bears full responsibility for re-providing any facility removed prior to Substantial Completion.
- B.** Removal of all temporary facilities shall be a condition precedent to Substantial Completion unless directed otherwise by the Architect or specifically noted in the specifications.
- C.** The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to Work under this contract. The Contractor's attention is directed to the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulations.

2. TEMPORARY TELECOMMUNICATIONS & FIELD OFFICE

- A.** The Contractor shall be available through mobile phone service at all times and shall provide a 24 hour phone number and contact in case of emergencies.
- B.** The Contractor shall provide a suitable office at the site for use by Contractor personnel.
- C.** The offices shall be set in a location approved by the Architect and the Awarding Authority, and shall be maintained by the Contractor in a clean and orderly condition.

3. TEMPORARY TOILETS

- A.** The Contractor shall provide and service an adequate number of toilet booths with chemical type toilets.
- B.** The toilets shall be erected in a location approved by the Architect and shall be maintained by the Contractor in a clean and orderly condition in compliance with all local and state health requirements.
- C.** Under no circumstances will the Contractor's personnel be allowed to use toilet facilities in the building.

4. TEMPORARY USE OF ELEVATOR

- A.** There is no elevator in this school building.

5. TEMPORARY CONSTRUCTION FENCE

- A.** The Contractor shall be responsible for providing and maintaining temporary fencing or barricades around the construction as may be necessary to assure the safety of all persons authorized or unauthorized. Such protective measures shall be located and constructed as required by local, state, and federal ordinances, laws, codes, or regulations.

6. TEMPORARY STRUCTURES AND MATERIAL HANDLING

- A.** The Contractor shall provide such storage sheds, temporary buildings, or trailers as required for the performance of the Contract. Subcontractors shall provide their own temporary buildings and trailers.
- B.** Materials shall be handled, stored, installed, cleaned, and protected in accordance with the best practice in the industry and, except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.
- C.** The Contractor must obtain the permission of the Owner for the use of any storage facilities available on site, but the Owner assumes no responsibility for articles stored.
- D.** Lawns, paving or other surfaces within areas used by the Contractor shall be restored to original condition when temporary structures are removed.

7. TEMPORARY STAGING, STAIRS, CHUTES

- A.** Except as otherwise specified, the Contractor shall furnish, install, maintain in safe condition, and remove all scaffolds, staging, and planking over 8 ft. in height, as required for the use of all trades for proper execution of the Work.
- B.** The Contractor shall furnish, install, maintain in safe condition, and remove all temporary ramps, stairs, ladders, and similar items as required for the use of all trades for the proper execution of the Work.
- C.** Debris shall not be allowed to fall freely from upper levels of the building. Materials shall not be dropped from open windows.

8. HOISTING FACILITIES

- A.** Except as otherwise specified, the Contractor shall provide, operate, and remove material hoists, cranes, and other hoisting as required for the performance of the Work by all trades. All such hoisting service shall be without cost to the Subcontractors.

9. TEMPORARY WATER

- A.** The Contractor may make use of the available water supply at the site for construction purposes, provided the permission of the Owner is obtained beforehand and only as long as the water is not used wastefully.
- B.** The Contractor shall provide all necessary piping and hoses to utilize the available sources of water.
- C.** The Contractor shall provide an adequate supply of cool drinking water with individual drinking cups for personnel on the job.

10. TEMPORARY ELECTRICITY

- A.** The Contractor may make use of the electricity available at the site, metered and paid for by the Owner, provided that the Contractor shall supply proper adapters and extension cords.
 - (1.)** Where heavy duty electric equipment drawing current in excess of 15 amperes is involved, the Contractor shall provide temporary service to supply the power.
 - (2.)** The temporary electric service shall include, but not be limited to labor, materials, and equipment necessary to supply temporary power of adequate capacity for the project.
 - (3.)** Transformers and meters, when required by the power company, will be furnished by the power company and the contractor shall pay the costs therefore.
- B.** Temporary Electrical Work shall be performed under the direct supervision of at least one master electrician, who will be present on the project at all times when such work is being performed.
- C.** The Contractor shall furnish, install, and maintain lamps in operating condition. The Contractor shall furnish its own extension cords and additional lamps as may be required for their work. Temporary work of a special nature, not otherwise specified hereunder, shall be provided, maintained, and paid for the trade requiring same.
- D.** All temporary work shall be provided in conformity with the National Electric Code, State laws, and requirements of the power company. Particular attention is called to Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulations.

11. TEMPORARY FIRE PROTECTION

- A.** The Contractor shall take necessary precautions to insure against fire during construction. The Contractor shall be responsible to insure that the area within contract limits is kept orderly and clean and that combustible rubbish and construction debris is promptly removed from the site.
- B.** Installation of equipment suitable for fire protection shall be done as soon as possible after commencement of the Work. The Contractor's attention is directed to the requirements of the Commonwealth of Massachusetts, Dept of Labor and Workforce Development Regulation 454 CMR.

12. TEMPORARY PARKING

- A.** Arrange for temporary off-site parking to accommodate construction personnel.
- B.** The contractor may utilize designated areas on site as directed by the owner for temporary work vehicles, trailer and dumpster. Refer to paragraph 50.13 for temporary protection requirements.
- C.** Under no circumstances will the Contractor's personnel be allowed to use designated parking spaces.

13. TEMPORARY TRAFFIC CONTROL

- A.** Restrict site access to only those vehicles actually performing the work.

14. WEATHER PROTECTION

- A.** "Weather Protection" means the temporary protection of that Work adversely affected by moisture, wind, and cold by covering, enclosing, and/or heating. The Contractor shall furnish and install "Weather Protection" material and be responsible for all costs. This provision does not supersede any specific requirements for methods of construction, curing of materials, or the applicable conditions set forth in the Contract Documents with added regard to performance obligations of the Contractor.
- B.** The Contractor shall assume the entire responsibility for weather protection during construction (until Substantial Completion), and shall be liable for any damage to any Work caused by failure to supply proper weather protection and proper ventilation.
- C.** Work damaged by frost shall be removed and replaced by and at the Contractor's expense and as directed by the Architect.
- D.** It is to be specifically understood that the Contractor shall do no work under any conditions deemed unsuitable by the Contractor to the execution of the Work. This provision shall not constitute any waiver, release, or lessening of the Contractor's obligation to bring the Work to Substantial Completion within the period of time set forth in the Contract Documents.

END OF SECTION

PROJECT SECTION 5 PROTECTION

1. PROTECTION OF PERSONS & PROPERTIES

- A.** The buildings will be occupied during construction. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction.
- B.** Any damage to buildings, roads, (public and private), bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner.
- C.** The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

2. TEMPORARY PROTECTION

- A.** The Contractor shall:
 - 1. Protect buildings and materials at all times from rain water, or from water damage of any origin. Provide all coverings, and other materials and equipment as required by job conditions to accomplish this requirement.
 - 2. In addition to the weather protection specified elsewhere, provide temporary watertight enclosures for openings in exterior walls when and as required to protect the Work from damage by inclement weather. Temporary enclosures shall be provided with adequate means of ventilation to prevent accumulation of moisture in the buildings.
 - 3. Protect sills, jambs, and heads of openings through which materials are handled.
 - 4. Protect existing concrete slabs, walks, ramps, etc. to remain exposed and finished floors against mechanical damage, plaster droppings, oil, grease, paint, or other material which will stain the finish.
 - 5. Protect all surfaces to receive work by other trades from any soiling which will prevent proper execution of subsequent work.
 - 6. Protect other areas, furniture, and private property of the occupants and the Owner. Any areas damaged by the Contractor shall be restored to the original condition or compensated at the Contractor's expense.
- B.** Roof surfaces and waterproofed surfaces shall not be subjected to traffic nor shall they be used for storage of materials. Where some activity must take place in order to carry out the Work, adequate protection must be provided.
- C.** After the installation of the Work by any Subcontractor is completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in first class condition at the time of Substantial Completion.

3. ACCESS

- A.** The Contractor shall, at all times, leave an unobstructed way along walks and roadways, and shall maintain barriers and lights for the protection of all persons and property in all locations where materials are stored or work is in progress.

4. SECURITY

- A.** The Contractor shall be responsible for providing all security precautions necessary to protect the Contractor's and Owner's interests.
- B.** All Contractor and Subcontractor personnel working at the site shall wear suitable identification, approved by the architect.

5. NOISE AND DUST CONTROL

- A.** The Contractor shall take special measures to protect the residents, neighbors, and general public from noise, dust, and other disturbances by:
1. Keeping common pedestrian and vehicular circulation areas clean and unobstructed;
 2. Insulating work area from occupied portions as far as possible; and
 3. Sealing dust and fumes from contaminating occupied spaces.

6. FIRE PROTECTION

- A.** The Contractor shall take necessary precautions to insure against fire during construction. The Contractor shall be responsible to insure that the area within contract limits is kept orderly and clean and that combustible rubbish and construction debris is promptly removed from the site.
- B.** Installation of equipment suitable for fire protection shall be done as soon as possible after commencement of the Work. The Contractor's attention is directed to the requirements of the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulation 454 CMR.

7. WIND PROTECTION

- A.** Should high wind warnings be issued by the U.S. Weather Bureau, the Contractor shall take every precaution to minimize danger to persons, to the Work, and to the adjacent property.

8. WEATHER PROTECTION

- A.** The Contractor shall provide Weather Protection as required by Specification Project Section 4, Temporary Facilities, and any other specific requirements of the Contract Documents.

9. TEMPORARY WORK IN PUBLIC WAYS

- A.** Prior to commencing any work in public ways and other areas, which are legally used by vehicles or pedestrians, the contractor shall submit in writing the proposed methods of protection to the authority. Work shall not be commenced in these areas until written approval is received from the authority and any agencies having jurisdiction.
- B.** In general, all work in public ways shall be protected by substantial barriers, which will offer complete protection against accidents for pedestrian and vehicular traffic without interrupting the normal flow of traffic. All barriers must be properly lighted with electric or battery powered safety lights and must be maintained in good working order by the contractor for the duration of the time such barriers are required.
- C.** Wherever temporary chutes are to be extended over sidewalks or other pedestrian or vehicular traffic areas, the bottom and sides of the chutes shall be provided with continuous dust-proof and weatherproof lining, applied to the exterior surfaces.
- D.** Contractor will be required to furnish, install, and maintain in good condition, at no additional cost, all other safety measures which in the judgment of the authority are required to protect the public from accident due to work performed under this contract. This requirement is supplementary to the contractor's rights and obligations to provide and employ safety measures as he may deem necessary or as may be required by law or standard safety practices.
- E.** The contractor shall be responsible for providing and maintaining temporary fencing or barricades around the construction as may be necessary to assure the safety of all persons authorized or unauthorized. Such protective measures shall be located and constructed as required by local, state, and federal ordinances, laws, codes, or regulations.

END OF SECTION

PROJECT SECTION 6 CUTTING AND PATCHING

1. RELATED DOCUMENTS

- A.** This section supplements the General Conditions.
- B.** Consult the individual sections of the specifications for specific items required under those sections.

2. WORK INCLUDED

- A.** Unless specified elsewhere, the Contractor shall be responsible for:
 - 1. All cutting and patching required for the project construction.
 - 2. Products and installation for patching and extending Work.
 - 3. Transition and adjustments.
 - 4. Repair of damaged surfaces, finishes, and cleaning
- B.** Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

3. EXAMINATION

- A.** Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting, including elements subject to damage or movement during cutting and patching. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.
- B.** Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.
- C.** Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D.** Beginning of cutting or patching means acceptance of existing conditions.
- E.** After uncovering existing Work, assess conditions affecting performance of work.

4. PREPARATION

- A.** Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
- B.** Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C.** Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- D.** Close openings in exterior surfaces to protect existing work [and salvage items] from weather and extremes of temperature and humidity. Insulate duct work and piping to prevent condensation in exposed areas.
- E.** Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- F.** Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

- G.** Remove debris and abandoned items from area and from concealed spaces.
- H.** Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

5. CUTTING

- A.** Execute all cutting and fitting necessary to complete the Work.
- B.** Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
- C.** Uncover work to install improperly sequenced work.
- D.** Remove and replace defective or non-conforming work.
- E.** Provide openings in the Work for penetration of mechanical and electrical work. Cut holes and slots as small as possible, nearly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover opening when not in use.
- F.** Employ skilled and experienced workers to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- G.** Cut rigid materials using power saw or core drill. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill. Pneumatic tools shall not be allowed without prior approval.
- H.** Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
- I.** To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
- J.** Do not cut structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
- K.** Do not cut operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.

6. PATCHING

- A.** Execute patching to complement adjacent, undisturbed finishes.
- B.** Fit products together to integrate with other Work.
- C.** Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- D.** Restore work with new products in accordance with requirements of Contract Documents.
- E.** Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- F.** At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with appropriate material to full thickness of the penetrated element as necessary to maintain the required rating.
- G.** Where new work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent work in texture and appearance. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
- H.** Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

- I. Patch with durable seams that remain as invisible as possible. Comply with specified tolerances.
- J. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
- K. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- L. Where walls or partitions are to be removed, patch and repair voids left in floor, wall and ceiling surfaces where the existing construction is removed. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
- M. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
- N. Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

7. CLEANING

- A. In addition to cleaning specified in Project Section 7, clean all areas affected by the work of this Section.
- B. Completely remove paint, mortar, oils, putty, and similar items.
- C. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

PROJECT SECTION 7 CLEANING UP

1. RELATED DOCUMENTS

- A.** This section supplements the General Conditions.
- B.** Consult the individual sections of the specifications for cleaning of Work installed under those sections.

2. CLEANING DURING CONSTRUCTION

- A.** Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1.** Do not burn or bury rubbish and waste materials on the site.
 - 2.** Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3.** Do not dispose of wastes into streams or waterways.
- B.** Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C.** Do not allow materials and rubbish to drop free or be thrown from above, but remove by use of a material hoist or rubbish chutes.
- D.** Maintain the Site free from accumulations of waste, debris, and rubbish.
- E.** Provide on-site containers for collection of waste materials and rubbish.
- F.** At the end of each day, remove and legally dispose waste materials and rubbish from site.
- G.** Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- H.** Disposal of materials shall be in compliance with all applicable laws, ordinances, codes, and by-laws.
- I.** The contractor shall be responsible for cleaning up every worksite or area where work has occurred, at the end of each workday. The area shall be cleaned of debris, tools, unused materials, and shall be left free of any situation that poses a hazard or threat to safety.

3. FINAL CLEANING

- A.** Prior to submitting a request to the Architect to certify Substantial Completion of the Work, the Contractor shall inspect all work areas and verify that all waste materials, rubbish, tools, equipment, machinery, and surplus materials have been removed, and that all sight-exposed surfaces are clean. Leave the Project clean and ready for occupancy.
- B.** Unless otherwise specified under other sections of the Specifications, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- C.** Cleaning shall include all surfaces, which the Contractor has had access to, whether new or existing.
- D.** Employ experienced workmen or professional cleaners for final cleaning.
- E.** Use only cleaning materials recommended by the manufacturer of the surface to be cleaned.
- F.** Use cleaning materials which will not create a hazard to health or property and which will not damage surfaces.
- G.** All broken or defective glass caused by the Contractor's Work shall be replaced at the expense of the Contractor.
- H.** Remove grease, mastic, adhesive, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces. This includes cleaning of the Work of all finishing trades where needed, whether or not cleaning by such trades is included in their respective specifications.
- I.** Repair, patch, and touch up marred surfaces to the specified finish, to match adjacent surfaces.
- J.** Broom clean exposed concrete surfaces and paved surfaces. Rake clean other surfaces of grounds.
- K.** Polish glossy surfaces to a clear shine.

- L.** Leave all architectural metals, hardware, and fixtures in undamaged, polished conditions.
- M.** Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
- N.** Owner's responsibility for cleaning commences at Substantial Completion.

END OF SECTION

PROJECT SECTION 8 PROJECT CLOSEOUT

1. RELATED DOCUMENTS

- A. This section supplements the General Conditions.
- B. Consult the individual sections of the specifications for specific items required under those sections.

2. SUBSTANTIAL COMPLETION

- A. Prior to requesting Substantial Completion as provided in the General Conditions the Contractor shall make a thorough inspection of the Work. During this inspection the Contractor shall prepare a comprehensive list of all items remaining to be completed or corrected. This list shall include all remaining Contractor and Subcontractor items to be provided under the Contract Documents.
- B. Upon completion of the items noted on the Contractor's list the Contractor shall notify the Architect that the Work is Substantially Complete. The Architect shall then conduct a similar thorough inspection. If the Architect agrees that the Work is Substantially Complete, the Architect will promptly make a thorough inspection and prepare a punch list, setting forth in accurate detail any items on the Contractor's list and additional items that are not acceptable or incomplete. The Contractor shall coordinate all Subcontractors to achieve prompt completion of the punch list.
- C. The Contractor shall not be relieved of the responsibility to provide Contract items left off of the Architect's punch list.
- D. If the Architect determines that the Work is not Substantially Complete, the Architect shall inform the Contractor of those items that must be completed before the Architect will prepare a punch list. Upon completion of those items, the Contractor shall again request the Architect to prepare a punch list.
- E. When the punch list has been prepared, the Architect will arrange a meeting with the Contractor and Subcontractors to identify and explain all punch list items and answer questions on work which must be done before final acceptance.
- F. The Architect may revise the punch list, from time to time, to ensure that all items of Work are properly completed.
- G. The Architect shall prepare the Certificate of Substantial Completion in accordance with the General Conditions.

3. RECORD DRAWINGS

- A. Consult the individual sections of the Specifications for the specific requirements of those sections. In cases of inconsistency the more stringent requirement, as directed by the Architect, shall be required.
- B. Prior to final payment and completion the Contractor shall provide all marked up As Built Drawings and Microfilm as required under other sections of the Specifications.

4. MAINTENANCE INSTRUCTIONS

- A. Consult the individual sections of the specifications for the specific requirements for those sections and for further details and descriptions of the requirements
- B. Prior to final payment and completion the Contractor shall provide all Operating Manuals and Maintenance Instructions as required by the Contract Documents.
- C. Submission to the Architect of a certificate of compliance to this requirement, signed by the Contractor and the Owner's Representative, shall be a condition precedent to final payment.

5. CLOSEOUT REQUIREMENTS

A. FINAL INSPECTION

1. The general Contractor shall submit written certification that:
 - a. Contract Documents have been reviewed.
 - b. Project has been inspected for compliance with the Contract Documents.
 - c. Work has been completed in accordance with the Contract Documents.
 - d. Project is completed and ready for final inspection.
2. Architect will begin final inspection within seven days after receipt of certification.
3. Should the Architect consider the Work is finally complete and in accordance with requirements of the Contract Documents, he shall request the General Contractor to make the Project Closeout submittals.
4. Should the Architect consider that the Work is not finally complete:
 - a. He shall notify the General Contractor, in writing, stating reasons.
 - b. The General Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to the Architect certifying that the Work is complete.
 - c. Architect will re-inspect the Work.

B. CLOSEOUT SUBMITTALS

1. Project Record Drawings.
2. Operating and Maintenance Data.
3. Extended Guarantees and Warranties.
4. Spare Parts and Maintenance Materials.
5. Deliver evidence of compliance with requirements of governing authorities, including without limitations, Certificates of inspections by the Building Department at project completion.
6. Deliver Certificate of Insurance for Products and Completed Operations.
7. Instruct Owners personnel in the operation of all installed products.

C. EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

1. The General Contractor Affidavit of payment of Debt Claims.
2. The General Contractors Release of liens with:
 - a. General Contractors release of waiver of liens.
 - b. Separate releases or waivers of liens for subcontractors, supplies and others with lien rights against property of the owner, together with list of those parties.
3. All submittals shall be duly executed before delivery to the Architect.

D. FINAL APPLICATION AND CERTIFICATION FOR PAYMENT

1. The General Contractor shall submit for final application in accordance with requirements of the Conditions of the Contract.
2. Architect shall issue final Certificate in accordance with provisions of the Conditions of the Contract.
3. NOTE: Prior to issuance of the Certificate for Final payment by the Architect, all requirements contained in this Paragraph entitled "Closeout Requirements" and other requirements of the Conditions of the Contract shall be executed, received and approved by the Architect.

END OF SECTION

PROJECT SECTION 9 SURVEYS AND RECORD DRAWINGS

1. RECORD DRAWINGS

- A.** Record Drawings shall consist of all the Contract Drawings.
- B.** From the sets of drawings furnished by the Owner, the Contractor shall reserve one set for record purposes. From this set, the Contractor shall detach and furnish, at no charge to the Subcontractors the drawings of their portion of the Work for the same purpose.
- C.** The Contractor and the Subcontractors shall keep their marked up As Built set on the site at all times and note on it in colored ink or pencil, neatly and accurately, at the end of each working day, the exact location of their work as actually installed. This shall include all changes, including those issued by Addendum, Change Order, or instructions by the Architect shall be recorded. Marked up As Built drawings shall be prepared for the entire project and include all Work.
- D.** The Architect may periodically inspect the marked up As Built drawings at the site. The proper and current maintenance of the information required on these drawings shall be a condition precedent to approval of the monthly applications for payment.
- E.** At Substantial Completion the Contractor shall submit the complete set of marked up As Built drawings to the Architect. The Contractor shall check all marked up As-Built prepared by subcontractors and certify in writing on the title sheet of the drawings that they are complete and correct, prior to submission to the Architect.
- F.** The Architect shall review the marked up As Built drawings and verify by letter to the Owner that the Work is complete. The Architect shall incorporate all changes onto to original drawings.
- G.** The Contractor may make a written request for copies of the completed Record Drawings. The Contractor shall reimburse the Owner directly for the cost of printing of any requested Record Drawings.
- H.** Submission of accurate marked up As Built drawings and their approval by the Architect shall be a condition precedent to final payment.

END OF SECTION

TECHNICAL SPECIFICATIONS

HYBRID FLEECE BACKED THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 GENERAL

- A. The Conditions of the Contract and other Sections of Division 1, General Requirements, apply to work of this Section.
- B. Examine all Drawings and all Sections of the Specifications and requirements and provisions affecting the work of this Section.

1.02 WORK TO BE PERFORMED

- A. Cold Applied 2-Ply Thermoplastic Hybrid Roof System.

1.03 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- B. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- C. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- D. ASTM D 1970 - Specification for Sheet Materials, Self-Adhering Polymer Modified Bituminous, Used as Steep Roofing Underlayment for Ice Dam Protection.
- E. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- F. ASTM D 1227 Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
- G. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating
- H. Method for Sampling and Testing Modified Bituminous Sheet Materials.
- I. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- J. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- K. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- L. ASTM D 6754 - Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.
- M. ASTM D 6757 - Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing.
- N. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- O. Factory Mutual Research (FM): Roof Assembly Classifications.
- P. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- Q. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- R. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- S. Warnock Hersey (WH): Fire Hazard Classifications.
- T. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- U. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- V. UL - Fire Resistance Directory.
- W. FM Approvals - Roof Coverings and/or RoofNav assembly database.

1.04 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Design Requirements:
 - 1. Uniform Wind Uplift Load Capacity
 - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
 - 1. Design Code: ASCE 7, Method 2 for Components and Cladding.
 - 2. Importance Category: III
 - 3. Importance Factor of: 1.0
 - 4. Wind Speed: 126 mph
 - 5. Ultimate Pullout Value: 456 pounds per each of the fastener
 - 6. Exposure Category: C
 - 7. Design Roof Height: 15.67 feet.
 - 8. Minimum Building Width: 195 feet.
 - 9. Roof Pitch: 3:12.
 - 10. Roof Area Design Uplift Pressure:
 - a. Zone 1 - Field of roof 39.6 psf
 - b. Zone 2 - Eaves, ridges, hips and rakes 50.1 psf
 - c. Zone 3 - Corners 66.0 psf
 - 2. Snow Load: Not to exceed original building design.
 - 3. Live Load: Not to exceed original building design.
 - 4. *Dead Load: Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.*
- C. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.

1.05 SUBMITTALS

- A. Submit upon Owners request.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation instructions.
- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins.
- E. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio based materials.
- F. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- G. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
- H. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- I. Manufacturer's Fire Compliance Certificate: Certify that the roof system furnished is approved by Factory Mutual (FM), Underwriters Laboratories (UL), Warnock Hersey (WH) or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.

- J. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.07 PRE-INSTALLATION CONFERENCE

- A. Convene minimum two weeks prior to commencing Work of this section.
- B. Review installation procedures and coordination required with related Work.
- C. Inspect and make notes of job conditions prior to installation:
 - 1. Record minutes of the conference and provide copies to all parties present.
 - 2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
 - 3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Architect.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.09 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

1.10 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.11 WARRANTY

- A. Product(s) installed on the above-named project will be free from defects and meet the minimum published specifications for the material for a period of five (5) years from the date of installation.
- B. Installer will submit a minimum of a two (2) year warranty to the membrane manufacturer with a copy directly to Owner.
- C. Membrane manufacturer shall provide an annual inspection for the life of the warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. When a performance standard is specified it shall be indicative of a standard required.
- B. Any item or materials submitted to the performance specified must comply in all respects as to the quality and performance specified. The Architect shall be the sole judge as to whether or not an item submitted meets the specifications.
- C. The Owner is concerned about quality performance in all areas of roofing construction and as a result is requiring the sourcing of all cold adhesives, ply sheets, flashing materials and related items to be manufactured by a single Roofing Materials manufacturer in order to ensure consistent quality.
- D. Requests for substitutions will be considered in accordance with provisions of the General Conditions.
 - 1. Architect / Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
 - 1. Prepare existing BUR surfaces by wet vac removal of all gravel from existing roof.
NOTE WELL: GRAVEL REMOVAL WORK MUST BE PERFORMED ON WEEKENDS ONLY.
 - 2. Roof surface to receive roofing system shall be clean, free from loose gravel, dirt and debris and dry.
 - 3. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
 - 4. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
 - 5. Prime roof surface where required, in accordance with requirements and recommendations of the primer and deck manufacturer.

3.03 INSTALLATION - GENERAL

- A. Install membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
 - 1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 - 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water.

3.04 INSTALLATION COLD APPLIED ROOF SYSTEM

- A. Base Ply: Cut base ply sheets into 18 foot lengths and allow plies to relax before installing. Install base sheet in SA Primer: applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve one ply throughout over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
 - 1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
 - 2. Prime substrate and adjacent ply with specified primer at the rate of 1/2 gallons per 100 square feet.
 - 3. Install subsequent rolls across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps.
 - 4. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
 - 5. Install base flashing ply to all perimeter and projection details.
- B. Thermoplastic Cap Ply: Allow plies to relax before installing. Install in interplay adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing.
 - 1. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
 - 2. All field seams must be clean and dry prior to initiating any field welding. Remove foreign materials from the seams (dirt, oils, etc.) with acetone or authorized alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.
 - 3. Contaminated areas within a membrane seam will inhibit proper welding and will require a membrane patch or strip.
 - 4. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld. The lap or seam area of the membrane may be intermittently tack welded to hold the membrane in place.
 - 5. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.
 - 6. Follow local code requirements for electric supply, grounding and surge protection. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.
 - 7. Properly welded seams shall utilize a 1.5 inch wide nozzle, to create a homogeneous weld, a minimum of 1.5 inches in width.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.

- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
 3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- F. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Cap Ply:
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
 5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
 6. All stripping shall be installed prior to flashing cap sheet installation.
 7. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
 8. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.
- H. Metal Edge:
1. Inspect the nailers to assure proper attachment and configuration.
 2. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
 3. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailers every 3 inches (76 mm) o.c. staggered.
 4. Prime metal edge and allow to dry. Do not prime when Green-Lock Plus or Green-Lock White Membrane Adhesive is used for the base ply lightly sand metal to improve bond.
 5. Strip in flange with base flashing ply covering entire flange in bitumen with 6 inches (152 mm) on to the field of roof. Assure ply laps do not coincide with metal laps.
 6. Install the thermoplastic Cap Ply in bitumen or foam adhesive over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Heat weld outside edge of the membrane to the Thermoplastic Cap Ply of the field.
- I. Roof Edge With Gutter:
1. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
 2. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
 3. Prime metal edge and allow to dry.
 4. Then install thermoplastic cap field ply in bitumen or foam adhesive.
 5. Install a second ply of thermoplastic flashing cap ply heat welded over the thermoplastic cap ply, 9 inches (228 mm) on to the field of the roof.

J. Surface Mounted Counterflashing:

1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall and allow to dry.
2. Then install thermoplastic cap field ply run in bitumen or foam adhesive.
3. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
4. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
5. Secure counterflashing set on butyl tape above flashing at 8 inches (203 mm) o.c. and caulk top of counterflashing.

K. Curb Detail/Air Handling Station:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
2. Then install thermoplastic cap field ply run in bitumen or foam adhesive.
3. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
4. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.
5. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

L. Exhaust Fan:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
2. Then install thermoplastic cap field ply run in bitumen or foam adhesive.
3. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
4. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

- O. Plumbing Stack:
 - 1. Minimum stack height is 12 inches (609 mm).
 - 2. Seal the base of the stack with elastomeric sealant.
 - 3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
 - 4. Install thermoplastic cap ply in bitumen or foam adhesive.
 - 5. Caulk the intersection of the membrane with elastomeric sealant.
 - 6. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.
- P. Pitch Pocket:
 - 1. Place the pitch pocket over the penetration and prime all flanges.
 - 2. Then install thermoplastic cap field ply run in bitumen or foam adhesive.
 - 3. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
 - 4. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
 - 5. Caulk joint between roof system and pitch pocket with elastomeric sealant.

3.05 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.06 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.07 FIELD QUALITY CONTROL

- A. When the project is in progress, the roofing system manufacturer will provide the following:
 - 1. Keep Client and architect informed as to the progress and quality of the work as observed.
 - 2. Provide daily job site inspections including documented weekly progress reports including photos & descriptions.
 - 3. Report to the designated personal in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
 - 4. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported.
 - 5. The presence of the manufacturer's representative shall in no way be construed as the manufacturer or the representative as having any responsibility or oversight of the contractor's employees for safety issues. The sole purpose of the manufacturer's representative is to ensure the specified materials are applied in a manner consistent with this specification.

3.08 SCHEDULES

- A. Vapor Barrier - Nailable Base Sheet:
 - 1. 60 mil SBS polyester/fiberglass/polyester performance requirements according to ASTM 6162
 - a. Tensile Strength
 - 1. 315 lbf /in
 - b. Tear Strength
 - 1. 550 lbf
 - c. Elongation
 - 1. 7%
- B. Base Ply (Wet insulation areas):
 - 1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass/polyester scrim, performance requirements according to ASTM 6162.
 - a. Tensile Strength, ASTM D 5147
 - 1. 2 in/min. @ 0 +/- 3.6 deg. F MD 310 lbf/in XD 100 lbf/in
 - b. Tear Strength, ASTM D 5147
 - 1. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 660 lbf XD 100 lbf
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1. 2 in/min. @ 0 +/- 3.6 deg. F MD 8 % XD 8 %
 - d. Low Temperature Flexibility, ASTM D 5147
 - 1. Passes -40 deg. F (-40 deg. C)
- C. Thermoplastic/Modified Cap (Ply) Sheet:
 - 1. 60 mil thermoplastic, ketone ethylene ester (KEE) fleece backed roofing membrane with polyester scrim. ASTM D6754
 - a. Breaking Strength, ASTM D 751, Proc. B, strip
 - 1. 375 lbf. (1,668 N)
 - b. Tear Strength ASTM D 751
 - 1. 120 lbf. min. (534 N)
 - c. Elongation at Break (%), ASTM D 751, Proc. B, Strip
 - 1. 40.0%
- D. Interply Adhesive:
 - 1. Dual component, spatter spray urethane insulation/membrane adhesive.
 - a. Tensile Strength (ASTM D 412) 250 psi
 - b. Density (ASTM D 1875) 8.5 lbs./gal.
 - c. Viscosity (ASTM D 2556) 22,000 - 60,000 cP
 - d. Peel Strength (ASTM D 903) 17 lb./in.
 - e. Flexibility (ASTM D 816) Pass @ -70 deg. F (-56.7 deg. C)

- G. Flashing Base Ply:
1. 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D6754
 - a. Breaking Strength, ASTM D 751, Proc. B, strip
 1. 375 lbf. (1,668 N)
 - b. Tear Strength ASTM D 751
 1. 120 lbf. min. (534 N)
 - c. Elongation at Break (%), ASTM D 751, Proc. B, Strip
 1. 40.0%
- H. Flashing Ply Adhesive:
1. Dual component, spatter spray urethane insulation/membrane adhesive.
 - a. Tensile Strength (ASTM D 412) 250 psi
 - b. Density (ASTM D 1875) 8.5 lbs./gal.
 - c. Viscosity (ASTM D 2556) 22,000 - 60,000 cP
 - d. Peel Strength (ASTM D 903) 17 lb./in.
 - e. Flexibility (ASTM D 816) Pass @ -70 deg. F (-56.7 deg. C)
- I. Surfacing:
1. Flashing Cap (Ply) Sheet:
 - a. 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D 6754.
 1. Breaking Strength, ASTM D 751, Proc. B, strip
 - a. 378 lbf
 2. Tear Strength ASTM D 751
 - a. 120 lbf. minimum.
 3. Elongation at Break (%), ASTM D 751, Proc. B, Strip
 - a. 40.0%

END OF SECTION

Technical Specifications

ROOF DECK AND INSULATION

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Provide all labor, equipment, and materials to install roof insulation over the properly prepared deck substrate.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry
- B. Section 07565 - Preparation For Re-Roofing
- C. Section 07520 - Modified Bitumen Roofing.
- D. Section 07620 - Flashing and Sheet Metal

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - A. ASTM A167 Standard Specification for Stainless and Heat-Resisting Chromium Nickel Steel Plate, Sheet and Strip.
 - B. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process.
 - C. ASTM B29 Standard Specification for Refined Lead.
 - D. ASTM B32 Standard Specification for Solder Metal.
 - E. ASTM C165 Standard Test Method for Measuring Compressive Properties of Thermal Insulation.
 - F. ASTM C208 Standard Specification for Cellulosic Fiber Insulation Board.
 - G. ASTM C209 Standard Test Method for Cellulosic Fiber Insulating Board.
 - H. ASTM C272 Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.
 - I. ASTM C1396 Standard Specification for Gypsum Wallboard.
 - J. ASTM C518 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - K. ASTM C578 Standard Specification for Perlite Thermal Insulation Board.
 - L. ASTM C728 Standard Test Methods for Fire Test of Roof Coverings.
 - M. ASTM C1289 Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation.
 - N. ASTM D5 Standard Test Method for Penetration of Bituminous Materials.
 - O. ASTM D36 Standard Test Method for Softening Point of Bitumen (Ring and Ball Apparatus).
 - P. ASTM D312 Standard Specification for Asphalt Used in Roofing.
 - Q. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 - R. ASTM D1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
 - S. ASTM D1622 Standard Test Method for Apparent Density of Rigid Cellular Plastics.
 - T. ASTM D1863 Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
 - U. ASTM D2126 Standard Test Method for Response of Rigid Cellular Plastics to Thermal Humid Aging.
 - V. ASTM D2178 Standard Specification for Asphalt Glass Felts used in Roofing and Waterproofing.
 - W. ASTM D4601 Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
 - X. ASTM D5147 Standard Sampling and Testing Modified Bituminous Sheet Material.

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's specification data sheets for each product
- B. Provide approval letters from insulation manufacturer for use of their insulation within this particular roofing system type.
- C. Provide a sample of each insulation type.
- D. Certification
 - 1. Submit roof manufacturer's certification that insulation fasteners furnished is acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that insulation furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.

1.5 QUALITY ASSURANCE

- A. Fire Classification, ASTM E-108
- B. Submit certification that the roof system furnished meets local or nationally recognized building codes for fire Class A and/or wind resistance.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store all insulation materials in a manner to protect them from the wind, sun and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.
- C. Keep materials enclosed in a water tight, ventilated enclosure (i.e. tarpaulins).
- D. Store materials off the ground. Any warped, broken or wet insulation boards shall be removed from the site.

PART 2 - PRODUCTS

2.1 APPROVED EQUIVALENT

- A. Contractor must submit any product not specified a minimum five days before the bid date to Engineer in order for product to be considered for approval. The Engineer will notify Contractor in writing of decision to accept or reject request.

2.2 INSULATION MATERIALS

- A. Provide thicknesses of insulation as indicated, provide combination of types and thicknesses to provide a complete system.
 - 1. Rigid Polyisocyanurate Roof Insulation
 - a. Qualities: Rigid, closed cell polyisocyanurate foam core bonded to heavy-duty glass fiber mat facers.
 - 1. Thickness: Meet the height of existing insulation
 - 2. R-Value: 30 Average
 - 3. Board Size: 4' x 8'
 - 4. R-Value: 30 Minimum Combined

5. Board Size: 4' x 8'
2. Gypsum Board
 1. N/A

2.3 RELATED MATERIALS

- A. Fiber Cant and Tapered Edge Strips: Performed rigid insulation units of sizes/shapes indicated, matching insulation board or of perlite or organic fiberboard, as per the approved manufacturer.
 1. Acceptable Manufacturers
 - a. Celotex
 - b. Johns-Manville Roofing Systems
 - c. International Permalite, Inc.
 - d. Approved Equivalent
- B. Protection Board: Pre-molded semi-rigid asphalt composition board ½ in.
- C. Roof Board Joint Tape: 6" wide glass fiber mat with adhesive compatible with insulation board facers.
- D. Roof Deck Insulation Adhesive: Two component, high rise foam adhesive as recommended by membrane manufacturer.
- E. Insulation Adhesive: Two component, foam adhesive as recommended by insulation manufacturer.

1. Tensile Strength (ASTM D-412)	250 psi
2. Density (ASTM D-1875)	8.5 lbs/gal
3. Viscosity (ASTM D-2556)	22,000-60,000 cP
4. Peel Strength (ASTM D-903)	17 lb/in
5. Flexibility (ASTM D-816-12)	Pass @ -70°F
6. VOC	0 g/l
- F. Fasteners: CR Base Sheet Fasteners by OMG - Corrosion resistant nailable fastener as recommended by roof membrane manufacturer.
 - 1.

PART 3 - EXECUTION

3.1 INSPECTION OF SURFACES

- A. Roofing contractor shall be responsible for preparing an adequate substrate to receive insulation:

Verify that work which penetrates roof deck has been completed.

 1. Verify that wood nailers are properly and securely installed.
 2. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.
 3. Do not proceed until defects are corrected.
 4. Do not apply insulation until substrate is sufficiently dry.
 5. Broom clean substrate immediately prior to application.
 6. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
 7. Verify that temporary roof has been completed.

3.2 INSTALLATION

A. Polyisocyanurate Attachment.

1. Approved Polyisocyanurate insulation board shall be installed over prepared substrate into high rise insulation. Do not allow the adhesive to skin over. Adjust amount as directed below. Briefly step each board into place to ensure contact with the adhesive.
2. Approved SBS base sheet shall be installed over prepared substrate with OMG CR Base Sheet mechanical fasteners in areas with Tectum Deck/Lightweight Concrete Deck
 - a. Zone 1 - 9" spacing
 - b. Zone 2 - 7" spacing
 - c. Zone 3 - 6" spacing
3. Approved Polyisocyanurate insulation board shall be installed over prepared substrate into high rise insulation in areas with CONCRETE DECK.
 - a. Zone 1 - 12" OC in ribbon pattern per 4' x 8' board of insulation
 - b. Zone 2 - 8" OC in ribbon pattern per 4' x 8' board of insulation
 - c. Zone 3 - 6" OC in ribbon pattern per 4' x 8' board of insulation
4. All boards shall be cut and fitted where the roof deck intersects a vertical surface. The boards shall be cut to fit a minimum of ¼" away from the vertical surface.

All boards shall be cut and fitted where the roof deck intersects a vertical surface. The boards shall be cut to fit a minimum of ¼" away from the vertical surface.

3.3 CLEANING

- #### A.
- Remove debris and cartons from roof deck. Leave insulation clean and dry, ready to receive roofing membrane.

END OF SECTION

ADDENDUM

**DOYON ROOF REPLACE DRAWINGS
OCTOBER 2025**

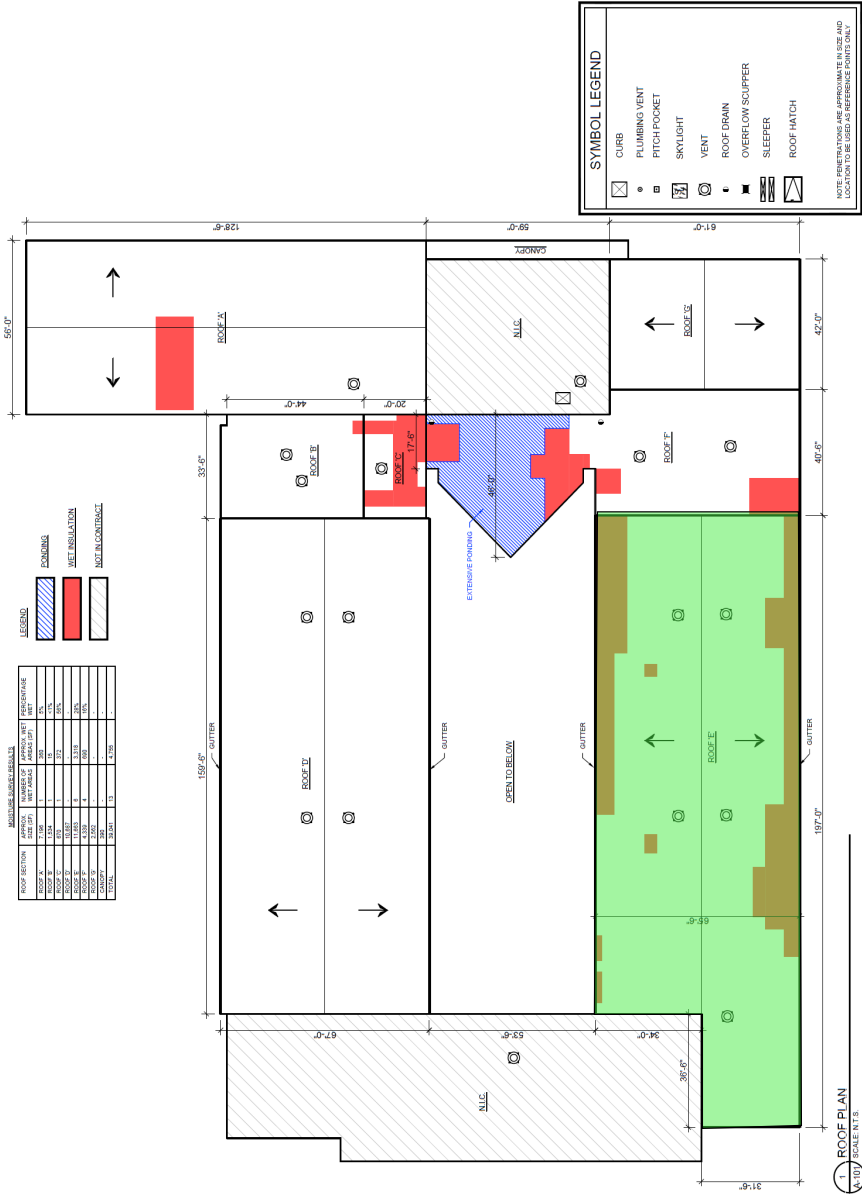
Doyon School

Key	
A-1	Summary of Work - Roof E
A-2	Existing Conditions
A-3	Details - KEE Replacement
A-4	Wind Uplift

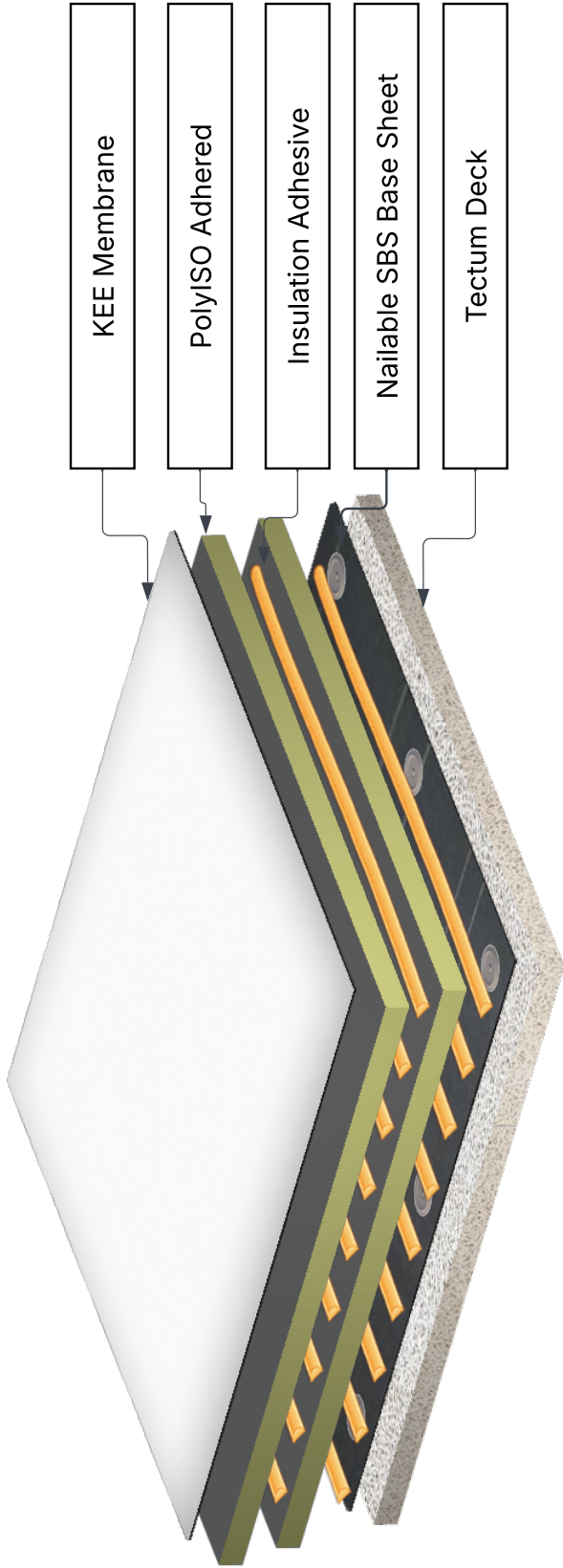
Test Cut Data - Roof E:
Existing Fluid Applied Over 3 Ply Mod Bit Membrane
0.5" Fiber Board
3" PolyIso
Nailable SBS Base Sheet
Tectum Deck

SUMMARY OF WORK	
Roof Replacement - Roof Section E - 11,663 sq ft	
Roof Area E – New KEE Membrane	
1. Furnish all labor, materials and equipment necessary to perform the scope of work below. 2. Remove and dispose of 4,000 sq ft of wet insulation down to the substrate Tectum deck and replace Vapor Barrier, insulation and 1 SBS ply in kind. 3. Remove existing gutter and edge metal from the entire perimeter. 4. Wrap all perimeter blocking with high temperature nail sealable underlayment – Rmer Seal – to extend 2” past the lowest course of blocking. 5. Furnish and install new .060 Fleece Backed KEE membrane adhered to the existing coated SBS membrane with spatter spray adhesive. 6. Furnish and install new .060 KEE flashings @ curb, wall, penetration and counterflashing's per mfr. requirements. 7. Install new gutters on both sides of the roof and associated down spouts every 25 ft. 8. Furnish and install new .040 aluminum KEE clad shop fabricated drip edge fascia with continuous cleat per mfr. requirements – standard color. 9. Job site to be cleaned daily.	

Ipswich Public Schools	
A-1	



Doyon School



New gutter bracket to be fastened 2" higher then bottom of edge metal and sealed with sealant.



Drainage is to a drip edge on either side of the roof.



Core Cut



View of core cut hole. SBS nailable base sheet can be observed



Overview of roof section



New gutter bracket to be fastened 2" higher then bottom of edge metal and sealed with sealant.

The information contained herein is for informational purposes only and is not intended to be used as a substitute for professional advice. It is the responsibility of the user to verify the accuracy of the information and to consult with a qualified professional for advice on the proper use of the information. This document is the property of the originating company and is not to be reproduced or distributed in whole or in part by any individual or organization without the written permission of the originating company. Any reproduction or distribution of this document without the written permission of the originating company is prohibited.	
Ipswich Public Schools	
A-2	

DIMENSIONS
TO BE
VERIFIED

Doyon School

IR Scan and Wet Insulation Replacement

Remove and dispose of 4,000 sq ft of wet insulation down to the substrate
Tectum deck and replace Vapor Barrier, insulation and 1 SBS ply in kind. 3
Wet insulation areas marked on plan in blue.

Test Cut Data - Roof E:

Existing Fluid Applied Over 3 Ply Mod Bit Membrane
0.5" Fiber Board
3" Polyiso
Nailable SBS Base Sheet
Tectum Deck

Areas:

(in approximate square feet)

Square Footage of Roof Inspected: 10,567

Square Footage of Wet Area: 3,957

Percentage of Wet Area:

Legend



CORE SAMPLE



MOISTURE PROBE - DRY



REFERENCE PHOTO

7 NUCLEAR DATA POINT



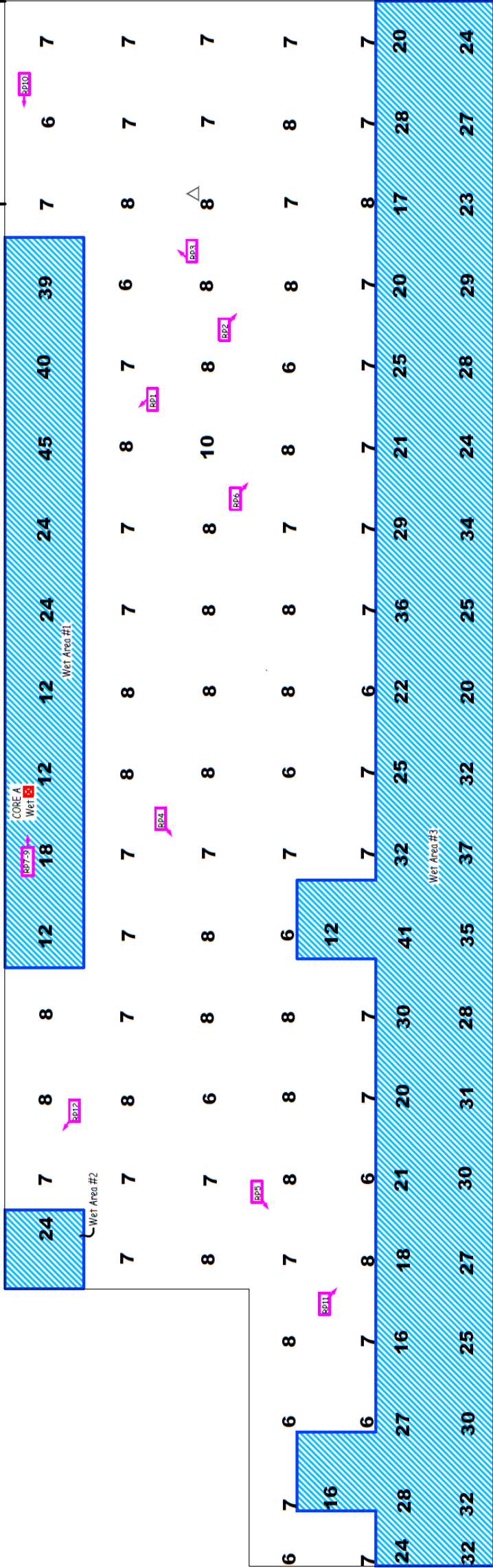
MOISTURE DAMAGE

THE INFORMATION CONTAINED HEREIN IS OF A PROPRIETARY NATURE AND IS SUBMITTED IN CONFIDENCE FOR USE BY THE CLIENTS APPROVED BY THE ORIGINATOR OF THIS DOCUMENT. ONLY THE USE OF THESE DOCUMENTS FOR OTHER PRODUCTS, REPRODUCTION OR DISTRIBUTION IN WHOLE OR PART, BY ANY INDIVIDUAL OR ORGANIZATION WITHOUT WRITTEN PERMISSION THE ORIGINATING COMPANY IS PROHIBITED. THE INFORMATION HEREIN REMAINS THE PROPERTY OF THE ORIGINATOR AND IS NOT TO BE DISCLOSED TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF THE ORIGINATOR. ANY USE NOT AUTHORIZED BY THE ORIGINATING COMPANY.

**DIMENSIONS
TO BE
VERIFIED**

Ipwich Public Schools

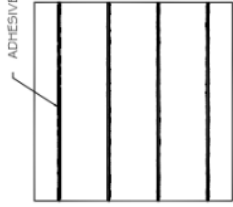
Not in Contract



A-3

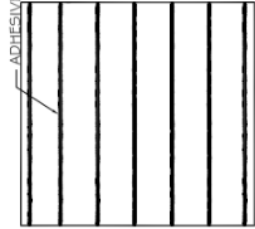
Doyon School

TYPICAL ZONE 1 INSULATION BOARD ADHESIVE PATTERN: 12" OC BEADS PER BOARD



4 ADHESIVE RIBBONS
EQUALLY SPACED AT
12" (15.2cm) O.C. (TYP.)

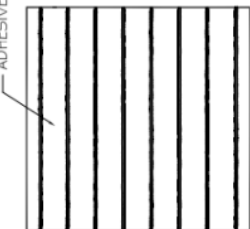
TYPICAL INSULATION BOARD ADHESIVE PATTERN: 8" OC BEADS PER BOARD



BBBON ENLARGED FOR CLARITY

7 ADHESIVE RIBBONS
EQUALLY SPACED AT
8" (15.2cm) O.C. (TYP.)

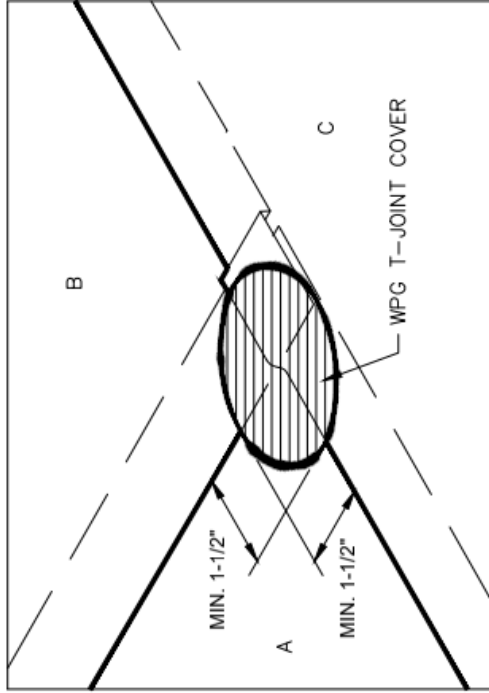
TYPICAL ZONE 3 INSULATION BOARD ADHESIVE PATTERN: 6" OC BEADS PER BOARD



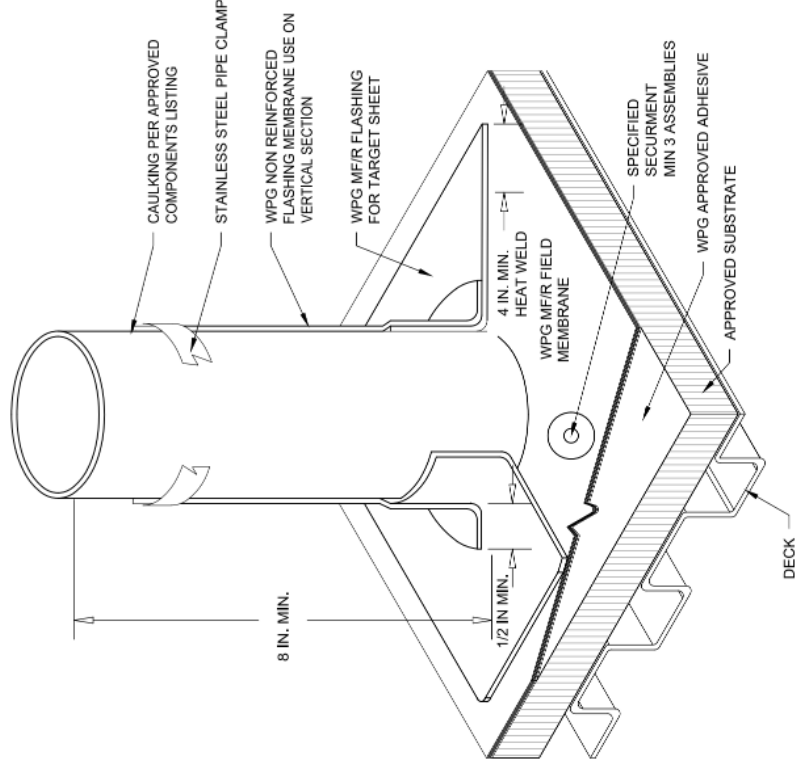
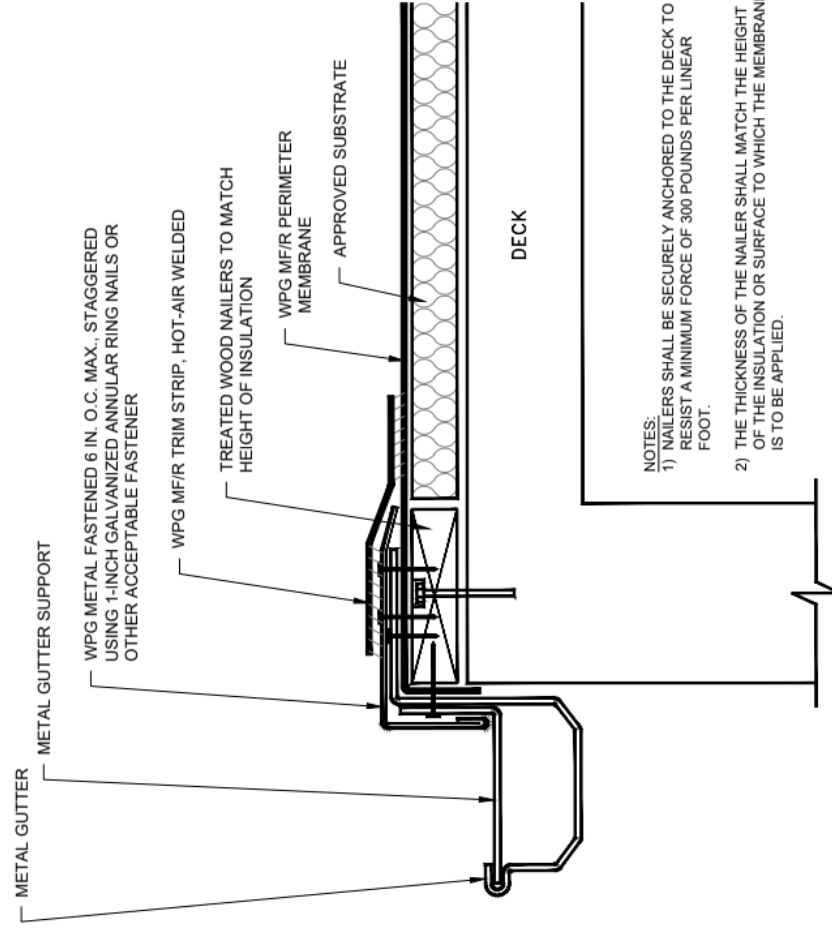
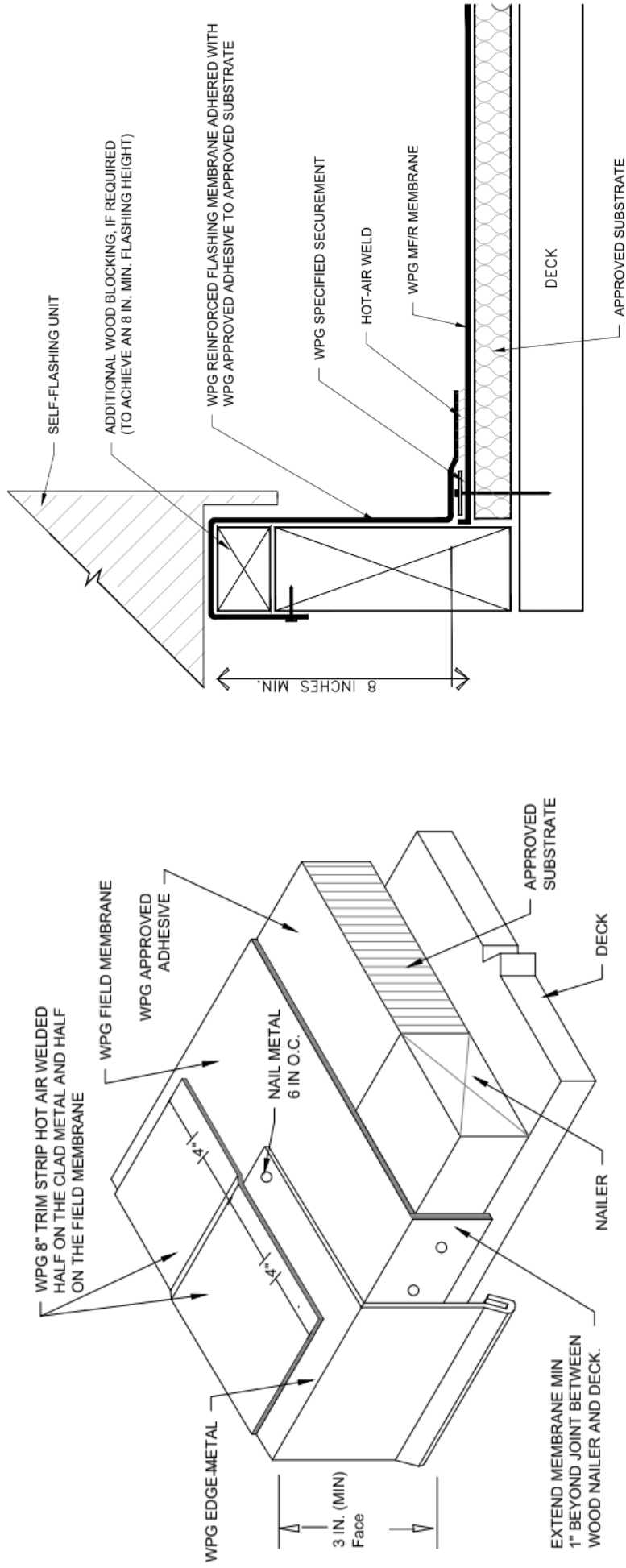
IBON ENLARGED FOR CLARITY

8 ADHESIVE RIBBONS
EQUALLY SPACED AT
6" (15.2cm) O.C. (TYP.)

CONFIRM FM APPROVALS FOR ADHESIVE PATTERNS TO APPROVED DECKS, INSULATIONS, AND SYSTEM TYPES WITH GARLAND ENGINEERING SERVICES



2 INSTALL A 4.5" DIAMETER WPG T-JOINT COVER CENTERED OVER THE SPLICE INTERSECTION ("T-JOINT") AS SHOWN.



NOTES:

- 1) NAILERS SHALL BE SECURELY ANCHORED TO THE DECK TO RESIST A MINIMUM FORCE OF 300 POUNDS PER LINEAR FOOT.
- 2) THE THICKNESS OF THE NAILER SHALL MATCH THE HEIGHT OF THE INSULATION OR SURFACE TO WHICH THE MEMBRANE IS TO BE APPLIED.

THE INFORMATION CONTAINED HEREIN IS OF A PROPRIETARY NATURE AND IS SUBMITTED IN CONFIDENCE FOR USE BY THE CLIENTS APPROVED BY THE ORIGINATOR OF THIS DOCUMENT. ONLY THE USE OF THESE DOCUMENTS FOR THE STATED PURPOSES, PURPOSE, LOCATION, PUBLICATION, REPRODUCTION OR DISTRIBUTION IN WHOLE OR PART BY ANY INDIVIDUAL OR ORGANIZATION WITHOUT WRITTEN PERMISSION OF THE ORIGINATING COMPANY IS PROHIBITED. THE INFORMATION HEREIN IS NOT TO BE REPRODUCED, COPIED, REPRODUCED, DISCLOSED TO OTHERS IS PROHIBITED FOR ANY USE NOT AUTHORIZED BY THE ORIGINATING COMPANY.

DIMENSIONS TO BE VERIFIED

Ipswich Public Schools

Details

A-4