

**PROJECT MANUAL**

**EAST HARTFORD PUBLIC SCHOOLS BID #1858-24  
PARTIAL ROOF REPLACEMENT AT  
ROBERT J. O'BRIEN ELEMENTARY SCHOOL**

**56 Farm Drive  
East Hartford, CT 06108**

**Mr. James Rovezzi  
East Hartford Public Schools  
734 Tolland Street  
East Hartford, Connecticut 06108**

**SATE PROJECT NO. 043-0249 RR**

**HRA PROJECT NO. 2023-21**

**DATE: SEPTEMBER 5, 2023**



**HIBBARD & ROSA ARCHITECTS, L.L.C.  
100 RIVERVIEW CENTER, SUITE 272  
292 MAIN STREET  
MIDDLETOWN, CT. 06457**

## **PROJECT MANUAL DIRECTORY**

**PROJECT:** Roof Replacement  
Robert J. O'Brien Elementary School  
56 Farm Drive  
East Hartford, CT 06108

### **ALL QUESTIONS REGARDING THIS PROJECT MUST BE DIRECTED TO THE ARCHITECT**

**OWNER:** East Hartford Public Schools  
Department of Facilities  
734 Tolland Street  
East Hartford, CT 06108

**ARCHITECT:** Hibbard & Rosa Architects, L.L.C.      Office # (860) 961-2107  
100 Riverview Center, Suite 272  
292 Main Street  
Middletown, Connecticut 06457  
Thomas F. Hibbard  
Project Architect

TABLE OF CONTENTS  
ROOF REPLACEMENT  
ROBERT J. O'BRIEN ELEMENTARY SCHOOL  
EAST HARTFORD, CT

PART I

ADVERTISEMENT AND BID DOCUMENTS

DIVISION 00 – BIDDING AND CONTRACT REQUIREMENTS

1.	East Hartford Procurement Documents	1-13
2.	CHRO Contract Compliance Regulations Notification to Bidders	1-5
3.	General Conditions of the Contract for Construction – AIA Document A201	1-38
4.	Supplementary General Conditions	1-14
5.	Standard abbreviated Form of Agreement between Owner and Contractor AIA Document 104	1-25
6.	Prevailing Wage Rates	1-8
7.	2023-2024 EHPS Calendar	1-1
8.	Drawing list	1-1

DIVISION 1 - GENERAL REQUIREMENTS:

01 10 00 - General Requirement	1-12
01 22 00 - Unit Prices	1-1
01 23 00 - Alternates	1-1
01 31 13 - Coordination	1-2
01 31 19 - Project Meetings	1-1
01 33 00 - Submittals	1-5
01 45 00 - Quality Control	1-2
01 50 00 - Temporary Facilities and Controls	1-6
01 70 00 - Closeout	1-5

PART II  
TECHNICAL SPECIFICATIONS

DIVISION 2 - EXISTING CONDITIONS:

02 41 14.13 – Removal and Salvage of Construction Materials	1-5
Core Cut Summary	1-3
Core Cut Plan	1-1
Asbestos Test Sample Summary	1-1

DIVISION 3 – CONCRETE – NOT UTILIZED

DIVISION 4 – MASONRY

04 06 50 – Masonry Mortar and Grout	1-4
-------------------------------------	-----

DIVISION 5 – METALS

05 52 00 – Freestanding Guardrail System	1-5
--	-----

DIVISION 6 – WOOD, PLASTICS AND COMPOSITES:

06 10 00 – Rough Carpentry	1-4
----------------------------	-----

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

07 22 18 – Preparation for Re-Roofing	1-3
07 27 00 – Roof Deck and Insulation	1-6
07 53 23 – Adhered EPDM Elastomeric Membrane Roofing	1-12
07 55 00 – Modified Bituminous Membrane Roofing – Add Alternate #1	1-23
07 62 00 – Sheet Metal Flashing and Trim	1-8
07 72 33 – Roof Hatch	1-3
07 92 13 – Joint Sealers	1-7

DIVISION 8 – OPENINGS – NOT UTILIZED

DIVISION 9 – FINISHES – NOT UTILIZED

DIVISION 10 – SPECILATIES – NOT UTILIZED

DIVISION 11 – EQUIPMENT – NOT UTILIZED

DIVISION 12 – FURNISHINGS – NOT UTILIZED

DIVISION 13 – SPECIAL CONSTRUCTION - NOT UTILIZED

DIVISION 14 – CONVEYING SYSTEMS - NOT UTILIZED

DIVISION 21 – FIRE SUPPRESSION

21 11 00 – Facility Water Service Piping 1-5

DIVISION 22 – PLUMBING

22 01 12 – Temporary Mechanical Disconnects and Reconnects 1-2

22 07 00 – Plumbing Insulation 1-5

22 40 00 – Plumbing Fixtures 1-3

DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING  
(HVAC) - NOT UTILIZED

DIVISION 25 – INTEGRATED AUTOMATION - NOT UTILIZED

DIVISION 26 – ELECTRICAL

26 01 12 – Temporary Electrical Disconnects and Reconnects 1-2

DIVISION 27 – COMMUNICATIONS - NOT UTILIZED

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY –  
NOT UTILIZED

DIVISION 31 – EARTHWORK - NOT UTILIZED

DIVISION 32 – EXTERIOR IMPROVEMENTS - NOT UTILIZED

DIVISION 33 – UTILITIES - NOT UTILIZED

DIVISION 34 – TRANSPORTATION - NOT UTILIZED

DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION - NOT  
UTILIZED

DIVISION 40 – PROCESS INTEGRATION - NOT UTILIZED

DIVISION 41 – MATERIAL PROCESSING AND HANDLING  
EQUIPMENT - NOT UTILIZED

DIVISION 42 – PROCESS HEATING, COOLING AND DRYING  
EQUIPMENT - NOT UTILIZED

DIVISION 43 – PROCESS GAS AND LIQUID STORAGE HANDLING,  
PURIFICATION, AND STORAGE EQUIPMENT - NOT  
UTILIZED

DIVISION 44 – POLLUTION CONTROL EQUIPMENT - NOT UTILIZED

DIVISION 45 – INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT -  
NOT UTILIZED

DIVISION 46 – WATER AND WASTE WATER EQUIPMENT –  
NOT UTILIZED

DIVISION 48 – ELECTRICAL POWER GENERATION - NOT UTILIZED

End of Project Manual



East  
Hartford  
Public  
Schools

*"Schools that are the Pride of our Community"*

Thomas Anderson, Superintendent of Schools

James Rovezzi, Acting Director of Facilities

---

## Invitation to Bid # 1858-24 O'Brien School Roof Replacement State Project # 043-0249 RR

East Hartford Public Schools (EHPS) seeks to replace ~57,280 square feet of all existing roofing consisting primarily of multi-ply BUR with gravel ballast (including a section of roof which has EPDM) over three decking surfaces including metal, concrete and tectum, located at 56 Farm Drive, East Hartford, CT 06108.

***Please Note: Prime Contractor is required to be DAS Certified as a roof replacement contractor for this work***

### **Bids should be addressed as follows:**

East Hartford Public Schools, Dept. of Facilities  
Jim Rovezzi, Assistant Director of Facilities  
734 Tolland St.  
East Hartford, CT 06108

### ***Bids must be plainly marked in the lower left-hand corner of the envelope as follows:***

**BID NUMBER:** 1858-24  
**BID NAME:** O'Brien School Roof Replacement Project  
**OPENING DATE:** 03/27/2024  
**OPENING TIME:** 12:00 pm

***A mandatory pre-bid conference will be held on Tuesday March 5, 2024 at 11:00 am outside in front of O'Brien School main lobby, 56 Farm Drive, East Hartford, CT 06108.*** Contractors are encouraged to participate in the site visit to view existing conditions. **This will be the only opportunity to view the jobsite.**

Questions related to this ITB must be submitted via e-mail to [rovezzi.jl@easthartford.org](mailto:rovezzi.jl@easthartford.org) no later than **4:00 pm on Friday, March 8, 2024.**

Any addendums, if necessary, will be published on the East Hartford Public Schools website and State of CT/DAS site by **Tuesday, March 12, 2024.**

Bids must be received in the East Hartford Public Schools Department of Facilities office at 734 Tolland St, East Hartford, CT 06108 no later than **12 P.M. Wednesday, March 27, 2024.**

cc: Thomas Anderson, Superintendent of Schools  
James Rovezzi, Acting Director of Facilities



## INVITATION TO BID INSTRUCTIONS AND REQUIREMENTS

These instructions and requirements are standard for all Invitation to Bids issued by East Hartford Public Schools. East Hartford Public Schools may delete, supersede or modify any of these standard instructions for a particular Invitation to Bid. The Invitation to Bid package will describe additional or modified instructions if needed.

1. Bid must be signed by an authorized representative of the respondent with the authority to bind the respondent to the terms of the bid and with the acknowledgment that the bid is made with full knowledge of and agreement with the general specifications, conditions and requirements of this Invitation to Bid.
2. Submit Bid package in a sealed envelope marked with the vendor's name and address in the upper left-hand corner. Bid number, name, opening date and opening time must be marked in the lower left-hand corner.
3. Bids received later than date and time specified will not be considered. Amendments to, or withdrawals of, Bids received later than the date and time set for Bid opening will not be considered.
4. After the opening of the Bid, no Bid can be withdrawn for a period of ninety (90) days.
5. The right is reserved to purchase either by option or the total of options indicated, split awards and act as it seems in the best interest of the East Hartford Public Schools.
6. It is the vendor's responsibility to check the East Hartford Public School website AND the State DAS website for changes to the Invitation to Bid prior to the bid opening. The bidder will be held to the bid and all addenda.
7. East Hartford Public Schools does not illegally discriminate on the basis of sex, sexual orientation, race, religion, national origin, color, creed, ancestry, age, gender (including pregnancy, childbirth and related medical conditions), gender identity or gender expression (including transgender status), marital status, familial status, military service and veteran status, physical or mental disability, protected medical condition as defined by applicable state or local law, genetic information, or any other characteristic protected by applicable federal, state, or local laws and ordinances.
8. East Hartford Public Schools reserves the right to waive any formalities in Bids received; to reject any and all Bids, to waive technical defects and to make such award, including accepting a Bid, although not the low bid, as it deems to be in the best interest of the East Hartford Public Schools.
9. East Hartford Public Schools may withhold acceptances of work and payment thereof when it is determined that said work or materials do not meet the specified requirements. Payment will



not be made until corrections are made which are acceptable to the East Hartford Public Schools officials and/or their authorized agent

10. East Hartford Public Schools may make such investigation as deemed necessary to determine the ability of the bidder to discharge his contract. The bidder shall furnish the East Hartford Public Schools with all such information and data including references of similar projects conducted for other school systems as may be required for that purpose. East Hartford Public Schools reserves the right to reject any Bid if the bidder fails to satisfactorily convince the East Hartford Public Schools that he/she is properly qualified by experience and has the facilities to carry out the obligations of the contract and to satisfactorily complete the work called for herein. Conditional Bids will not be accepted.
11. Specifications cannot be relieved by anyone other than an assigned agent for East Hartford Public Schools. All changes must be in writing, signed by agent.
12. The successful Bidder will be required to provide proof of insurance as outlined in the "Indemnification and Insurance Requirements for Construction, Professional, or Labor Services" form included with the Invitation to Bid and submit a signed and notarized copy of the Indemnification section on of the form. No modifications may be made to the Indemnification form.
13. All prices must be F.O.B. delivered unless otherwise specified.
14. The East Hartford Board of Education will not award a bid to any bidder who owes delinquent tax to the Town of East Hartford. Bidders certify by virtue of their signature on the bid sheet that neither the bidder nor any business or corporation which the Bidder owns an interest in is delinquent in tax obligations to the Town. Verification will be made prior to award.
15. Any contract or agreement entered into as a result of this ITB process that spans multiple fiscal years shall contain the following "funding out" or "non-appropriation" clause:  
East Hartford Public Schools/East Hartford Board of Education (EHPS) reserves the right to terminate this agreement/contract, without penalty, at the end of each fiscal year in the event a funding source relied upon to pay the cost of the agreement/contract does not contain an allocation for the services and/or products contained in this agreement/contract. EHPS will provide notice of termination at least sixty (60) days prior to the end of the fiscal year.



**East  
Hartford  
Public  
Schools**

## East Hartford Board of Education



### INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR CONSTRUCTION, PROFESSIONAL OR LABOR SERVICES

#### A. INDEMNIFICATION

***BIDDERS AND PROPOSERS ARE REQUIRED TO AGREE TO THE FOLLOWING INDEMNIFICATION LANGUAGE BY NOTARIZING BELOW***

To the fullest extent permitted by law, THE AWARDED BIDDER/PROPOSER agrees on behalf of itself and its successors and assigns, covenants and agrees at its sole cost and expense, to protect, defend, indemnify, release and hold the East Hartford Board of Education, Town of East Hartford, its agents, servants, officials, employees, volunteers and members of its boards and commissions (Collectively the “Board and Town of East Hartford”), harmless from and against any and all Losses (defined below) imposed upon or incurred by or asserted against the Board and Town of East Hartford by reason of bodily injury, personal injury, death, or property damage of whatsoever kind or nature, to any individuals or parties (including, but not limited to the Board and Town of East Hartford, the Awarded Bidder/Proposer, or any other third party) arising out of or resulting from, or alleged to arise out of or arise from Awarded Bidder’s/Proposer’s performance of its work under the contract, but only to the extent such Losses are attributable to the negligent or intentional act, error or omission of the Awarded Bidder/Proposer or any person or organization employed or engaged by Awarded Bidder/Proposer to perform all or any part of the contract. The term “Losses” includes any losses, damages, costs, fees, expenses, claims, suits, judgments, awards, liabilities (including, but not limited to, strict liabilities), obligations, debts, fines, penalties, charges, amounts paid in settlement, foreseeable and unforeseeable consequential damages, litigation costs, attorneys’ fees, expert’s fees, and investigation costs, of whatever kind or nature, and whether or not incurred in connection with any judicial or administrative proceedings, actions, claims, suits, judgments or awards.

Upon written request by the Board and Town of East Hartford, the Awarded Bidder/Proposer shall defend and provide legal representation to the Board and Town of East Hartford with respect to any of the matters referenced above. Notwithstanding the foregoing, the Board and Town of East Hartford may, in its sole and absolute discretion, engage its own attorneys and other professionals to defend or assist it with respect to such matters and, at the option of the Board and Town of East Hartford, its attorneys shall control the resolution of such matters. Upon demand, the Awarded Bidder/Proposer shall pay or, in the sole and absolute discretion of the Board and Town of East Hartford, reimburse, the Board and Town of East Hartford for the payment of reasonable fees and disbursements of attorneys and other professionals in connection with this contract.

**THE BOARD and TOWN OF EAST HARTFORD WILL NOT AGREE TO INDEMNIFY THE AWARDED BIDDER/PROPOSER; SUBCONTRACTOR(S); OR INDEPENDENT CONTRACTOR(S)**

STATE OF CONNECTICUT  
COUNTY OF:

Signature \_\_\_\_\_

Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

SEAL HERE:

Address: \_\_\_\_\_

Date: \_\_\_\_\_

Subscribes and Sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_

Notary Public \_\_\_\_\_

East Hartford Board of Education

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR  
CONSTRUCTION, PROFESSIONAL OR LABOR SERVICES  
(cont'd)

B. INSURANCE

***NOTE: CERTIFICATE OF INSURANCE WILL BE REQUIRED UPON AWARD AND PRIOR TO START OF WORK OR ISSUANCE OF PURCHASE ORDER***

1. GENERAL REQUIREMENTS

The AWARDED BIDDER/PROPOSER shall be responsible for maintaining insurance coverage in force for the life of this contract of the kinds and adequate amounts to secure all of the AWARDED BIDDER/PROPOSER'S obligations under this contract with an insurance company(ies) with an AM Best Rating of A-VII or better licensed to write such insurance in the State of Connecticut and acceptable to the Board and Town of East Hartford Additional Insured: **The East Hartford Board of Education and the Town of East Hartford, its officials, employees, volunteers, boards and commissions must be included as an Additional Insured on the AWARDED BIDDER/PROPOSER'S Insurance Policies** (except Workers' Compensation and Professional Errors & Omissions). Evidence of this must be provided upon inception of this contract and upon renewal of insurance by the AWARDED BIDDER/PROPOSER to the Board and Town of East Hartford in the form of language on a Certificate of Insurance as well as a policy endorsement.

The AWARDED BIDDER/PROPOSER shall provide the Board and Town of East Hartford with a Certificate(s) of Insurance signed by an authorized representative of the insurance company(ies) prior to the performance of this contract describing the coverage and providing that the insurer shall give the Board and Town of East Hartford written notice at least thirty (30) days in advance of any termination, expiration, or any and all changes in coverage. Such insurance or renewals or replacements thereof shall remain in force during the AWARDED BIDDER/PROPOSER'S responsibility under this contract. Failure to provide or maintain any of the insurance coverage required herein shall constitute a breach of the Contract.

2. SPECIFIC REQUIREMENTS:

a) Commercial General Liability Insurance

The AWARDED BIDDER/PROPOSER shall carry Commercial General Liability Insurance (broad form coverage) insuring against claims for bodily injury, property damage, personal injury and advertising injury that shall be no less comprehensive and no more restrictive than the coverage provided by Insurance Services Office (ISO) form for Commercial General (CG 0001 04/2013). By its terms or appropriate endorsements such insurance shall include the following coverage, to wit: Bodily Injury, Property Damage, Fire Legal Liability (not less than the replacement value of the portion of the premises occupied), Personal & Advertising Injury, Blanket Contractual, Independent Contractor's, Premises Operations, Products and Completed Operations (for a minimum of two (2) years following Final Completion of the Project). Any deviations from the standard unendorsed form will be noted on the Certificate of Insurance.

Type of Coverage:	Occurrence Basis
<b>Minimum</b> Amount of Coverage:	\$1,000,000 per occurrence \$2,000,000 aggregate
Policy Period:	Annual Policy

East Hartford Board of Education

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR  
CONSTRUCTION, PROFESSIONAL OR LABOR SERVICES  
(cont'd)

b) Workers' Compensation and Employer's Liability Insurance

The AWARDED BIDDER/PROPOSER shall provide Statutory Workers' Compensation Insurance as required by the State of Connecticut, including Employer's Liability.

Amount of Coverage: Coverage A:	Statutory
Coverage B (Employer Liability):	\$500,000 Each Accident
	\$500,000 Disease, Policy Limit
	\$500,000 Disease, Each Employee

c) Commercial Automobile Liability Insurance

The AWARDED BIDDER/PROPOSER shall carry Commercial Automobile Liability Insurance insuring against claims for bodily injury and property damage and covering the ownership, maintenance or use of any auto or all owned/leased and non-owned and hired vehicles used in the performance of the Work, both on and off the Project Site, including loading and unloading. The coverage should be provided by Insurance Services Office form for Commercial Auto Coverage (CA CA0001 10/2013) or equivalent. "Auto" (symbol 1 or equivalent) is required. Any deviations from the standard unendorsed form will be noted on the Certificate of Insurance.

Type of Coverage:	Occurrence Basis
<b>Minimum</b> Amount of Coverage:	\$1,000,000 combined single limit
Policy Period:	Annual Policy

d) Umbrella Liability Insurance

The AWARDED BIDDER shall carry an umbrella liability insurance policy of **\$5,000,000**.

3. PROFESSIONAL SERVICE CONTRACTOR REQUIRMENTS

*(e.g., Architects, Engineers, et al.)*

The AWARDED BIDDER/PROPOSER shall carry Errors & Omissions coverage in the **minimum** amount \$1,000,000 per claim/\$1,000,000 annual aggregate for all professional services contracts. If the insurance coverage is written on a Claims-Made basis, an extended reporting period of at least 3 years after substantial completion of the project is required. Increased coverage limits may be required based on the scope, price and duration of the work to be performed. The East Hartford Board of Education or Town of East Hartford will inform the **AWARDED BIDDER/PROPOSER** as to the required limits for this insurance as soon as practicable, and has sole discretion of the limits to be required.

East Hartford Board of Education

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR  
CONSTRUCTION, PROFESSIONAL OR LABOR SERVICES  
(cont'd)

4. SUBCONTRACTOR REQUIREMENTS:

The AWARDED BIDDER/PROPOSER shall require all subcontractors and independent contractors to carry the coverages set forth in section B. INSURANCE and will obtain appropriate Certificates of Insurance before the subcontractors and independent contractors are permitted to begin work.

The AWARDED BIDDER/PROPOSER shall require that East Hartford Board of Education and The Town of East Hartford, its officials, employees, volunteers, boards and commissions be included as an Additional Insured on all subcontractors and independent contractors' insurance (except Workers' Compensation and Professional Errors & Omissions) before permitted to begin work.

The AWARDED BIDDER/PROPOSER and all subcontractors and independent contractors and their insurers shall waive all rights of subrogation against the East Hartford Board of Education and Town of East Hartford, and its officers, agents, servants and employees for losses arising from work performed by each on this contract.

**THE EAST HARTFORD BOARD OF EDUCATION OR TOWN OF EAST HARTFORD  
RESERVES THE RIGHT TO AMEND THE AMOUNTS OF COVERAGE REQUIRED AND  
TYPE OF COVERAGE PROVIDED BASED ON THE FINAL AGREED UPON SCOPE OF  
SERVICES**



## AFFIRMATIVE ACTION / EQUAL OPPORTUNITY POLICY STATEMENT

East Hartford Public Schools is an Equal Opportunity Employer and will not transact business with firms that are not in compliance with all Federal and State Statutes and Executive Orders pertaining to non-discrimination.

This form is required to be filled in (enter company name above lines below), signed and returned with any Invitation to Bid, Request for Proposal, or other public solicitation document in order to transact any business with East Hartford Public Schools.

\_\_\_\_\_ will not make employment decisions (including decisions related to hiring, assignment, compensation, promotion, demotion, disciplinary action and termination) on the basis of race, color, religion, age, sex, marital status, sexual orientation, national origin, alienage, ancestry, disability (including pregnancy), genetic information, veteran status or gender identity or expression, except in the case of a bona fide occupational qualification.

It is the policy of \_\_\_\_\_ that any form of discrimination or harassment on the basis of race, religion, color, national origin, alienage, sex, sexual orientation, marital status, age, disability (including pregnancy), genetic information, veteran status or gender identity or expression, or any other basis prohibited by state or federal law is prohibited.

\_\_\_\_\_ will also take affirmative action as called for by applicable laws and Executive Orders to ensure that minority group individuals, females, disabled veterans, recently separated veterans, other protected veterans, Armed Forces service medal veterans, and qualified disabled persons are introduced into our workforce and considered for promotional opportunities.

\_\_\_\_\_ will remain in full compliance with the above while under contract with or performing work for East Hartford Public Schools.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Name/Title of Company Officer

\_\_\_\_\_  
Date

\_\_\_\_\_  
\_\_\_\_\_

Business Address

\_\_\_\_\_  
Phone



**Invitation to Bid# 1858-24**  
**O'Brien School Roof Replacement**  
**State Project # 043-0249 RR**

**Background**

East Hartford Public Schools (EHPS) seeks to replace ~57,280 square feet of all existing roofing consisting primarily of multi-ply BUR with gravel ballast (including a section of roof which has EPDM) over three decking surfaces including metal, concrete and tectum, located at 56 Farm Drive, East Hartford, CT 06108.

***Please Note: Prime Contractor is required to be DAS Certified as a roof replacement contractor for this work***

Bid documents for this project consist of the following:

- Project Manual dated **September 5, 2023** containing specifications developed by Hibbard & Rosa, Architects LLC.
- Construction Drawings dated **September 5, 2023** by Hibbard & Rosa, Architects LLC.
- AIA Document A104- 2017 "Standard Abbreviated form of Agreement Between Owner and Contractor" **\*\*SAMPLE\*\***
- AIA Document A201-2017 "General Conditions of the Contract for Construction" **\*\*SAMPLE\*\***
- Commission on Human Rights and Opportunities Contract Compliance Regulations
- Connecticut Department of Labor Prevailing Wage Rates

*Note: This project is being constructed through the State Department of Education Office of School Construction Grants and Review process, project # 043-0249 RR*

Fixed price bids will be for a "Turn-Key" project consisting of all aspects of replacing the existing roofing system per the Project Manual and Construction Drawings.

***A mandatory pre-bid conference will be held on Tuesday, March 5, 2024 at 11:00 a.m. outside in front of O'Brien School main lobby, 56 Farm Drive, East Hartford, CT 06108.*** Contractors are encouraged to participate in the site visit to view existing conditions. **This will be the only opportunity to view the jobsite.**

Questions related to this ITB must be submitted via e-mail to [rovezzi.jl@easthartford.org](mailto:rovezzi.jl@easthartford.org) no later than **4:00 pm on Friday, March 8, 2024.**

Any addendums, if necessary, will be published on the East Hartford Public Schools website and State of CT/DAS site by **Tuesday, March 12, 2024.**

Bids must be received in the East Hartford Public Schools Department of Facilities office at 734 Tolland St, East Hartford, CT 06108 no later than **12 P.M. Wednesday, March 27, 2024** (Opening Date)

## Scope

- Contractor will reference the following construction documents developed by Hibbard & Rosa Architects, L.L.C for the O'Brien School Roof Replacement:
  - 1.) Construction Drawings dated September 5, 2023
  - 2.) Project Specifications dated September 5, 2023.

## Bid Proposals

Contractors must provide the following in their bid package:

1. General information and company history
2. Describe at least (3) examples of completed projects of a similar size and scope to this project, and provide a reference (Name, Organization, Phone Number) for each.
3. Pricing submitted using "Appendix A- Pricing"
4. Completed required submittal forms as outlined in this Invitation to Bid
5. Two (2) Sets of Bid Packet ((1) original and (1) unbound/unstapled copy (for scanning purposes)

## Other Considerations

- **Construction will begin on June 11, 2024 (Start Date unless last day of school is pushed back due to unforeseen reason(s)) and must be fully completed by August 16, 2024.**
- **This contract will commence upon the date of official award to the contractor.** This will allow for pre-construction activities (prior to actual start date of construction) to take place such as ordering of materials, etc.
- Work authorized under any contract executed as a result of this Invitation to Bid is expected to reach the thresholds requiring prevailing wages, so contractors should bid using prevailing wage rates supplied in Addendum #1 to this Invitation to Bid.
- CHRO Compliance Language (Also see attached document):

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

[http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav\\_GID=1806](http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806)



### **Other Considerations (cont'd)**

- AIA Document A104- 2017 “Standard Abbreviated form of Agreement Between Owner and Contractor” will form the basis of the contract between EHPS and the contractor.
- AIA Document A201-2017 “General Conditions of the Contract for Construction”
- Payment Procedure- Certified payment applications received by the **15<sup>th</sup>** of the month will be paid by the **15<sup>th</sup>** of the following month. If received on the above schedule, payment will be made within 30 days of receipt. Retainage will be **5%**. These figures will be added to sections 4.1.3 and 4.1.4 of the resulting AIA A104 contract.
- Contractors and all subcontractors must be properly licensed by the State of Connecticut.
- A Bid Bond in the amount of 10% of the contract value must be supplied with all bids in order to be considered.
- Payment (Labor and Materials) and Performance Bonds will be required by the contractor for the full contract amount.
- A Builders Risk Policy will be required by the contractor for the full contract amount.
- East Hartford Public Schools are exempt from Connecticut Sales Tax. Do not include sales tax in any pricing submitted.

### **Selection Process**

The lowest cost qualified, responsive and responsible contractor will be selected.

East Hartford Public Schools reserves the right to reject any or all bids.

## **PROJECT REFERENCES**

In the interest of securing competent contractors, we are requiring the following information be provided with your Bid Proposal. Failure to provide this information may jeopardize your firm being awarded this project.

Please provide three references for **Roofing** projects of **similar size and scope to this project**:

### **Project #1**

Project Name: \_\_\_\_\_

Customer Name/Organization/Phone Number#: \_\_\_\_\_

Date Project Completed: \_\_\_\_\_

Description of Project:

---

---

---

---

### **Project #2**

Project Name: \_\_\_\_\_

Customer Name/Organization/Phone Number#: \_\_\_\_\_

Date Project Completed: \_\_\_\_\_

Description of Project:

---

---

---

---

### **Project #3**

Project Name: \_\_\_\_\_

Customer Name/Organization/Phone Number#: \_\_\_\_\_

Date Project Completed: \_\_\_\_\_

Description of Project:

---

---

---

---

Please provide confirmation of DAS Certification

DAS Certified Confirmation: \_\_\_\_\_

**Appendix A- Pricing (Page 1 of 2)**  
**Invitation to Bid # 1846-24**  
**O'Brien School Roof Replacement Project**

1. Lump sum cost for all project activities as specified in the Project Manual and Construction Drawings listing **.090 EPDM Roof** with a 20-year warranty as the primary design prepared by Hibbard & Rosa Architects, L.L.C. dated **09/05/2023**  
= \$ \_\_\_\_\_
  
2. **Add/Alternative #1:**  
Increase the warranty period of the **.090 EPDM membrane roof** system from 20 years to 30 years:  
= \$ \_\_\_\_\_
  
3. **Add/Alternate #2:**  
Lump sum cost for all project activities as specified in the Project Manual and Construction Drawings listing **2-Ply Modified Roof** with a 20-year warranty as the alternative design prepared by Hibbard & Rosa Architects, L.L.C. dated **09/5/2023**  
= \$ \_\_\_\_\_
  
4. **Add/Alternative #3:**  
Increase the warranty period of the **2-Ply Modified Roof** system from 20 to 30 years:  
= \$ \_\_\_\_\_
  
5. Change Order Overhead and Profit Stipulation:  
The maximum allowable Overhead and Profit markup on any change order for work directly performed by the prime contractor is 10% over direct labor/material costs.  
If bidder is offering a lower OH&P markup, list here: \_\_\_\_\_ %
  - a. The maximum allowable Overhead and Profit markup on any change order for work performed by a SUB CONTRACTOR of prime contractor is 10% over direct labor/material costs of the SUBCONTRACTOR, plus 5% of the total cost for the prime contractor (pass- thru).  
If bidder is offering a lower OH&P markup, list here: Subcontractor % + Prime Contractor (pass-thru) \_\_\_\_\_ %.
  
6. Unit Pricing- Refer to Specification section 012100 for allowance information. The pricing provided below (3a) shall be used to calculate the allowance amount included in section #1 above.
  - a. Unit Price No. 1: Cutting and patching of steel roof deck (to be authorized by owner/architect)  
= \$ \_\_\_\_\_ per square-foot
  
  - b. Unit Price No. 2: Cutting and patching of concrete roof deck. (to be authorized by owner/architect)  
= \$ \_\_\_\_\_ per square-foot
  
  - c. Unit Price No. 3: Cutting and patching of Tectum roof deck (to be authorized by owner/architect)  
= \$ \_\_\_\_\_ per square-foot
  
  - d. Unit Price No. 4: Brick replacement at masonry walls & chimney (to be authorized by owner/architect)  
= \$ \_\_\_\_\_ per square-foot
  
  - e. Unit Price No. 5: Wood blocking (to be authorized by owner/architect)= \$ \_\_\_\_\_ per linear ft
  
  - f. Unit Price No. 6: Asbestos/Hazardous Material Glove Bag Removal at Roof Drain= \$ \_\_\_\_\_ per unit
  
  - g. Unit Price No. 7: Asbestos/Hazardous Material Glove Bag Removal per 3 Lineal Feet=\$ \_\_\_\_\_ 3/L.F.

**Appendix A- Pricing (Page 2 of 2)**  
**Invitation to Bid # 1858-24**  
**O'Brien School Roof Replacement Project**

SUBMITTED BY:

Date: \_\_\_\_\_

Vendor: \_\_\_\_\_ Contact Person \_\_\_\_\_

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Telephone #: \_\_\_\_\_ Email: \_\_\_\_\_

Collector verification

No delinquent taxes owed by the awarded bidder to the Town of East Hartford \_\_\_\_\_

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES**  
**CONTRACT COMPLIANCE REGULATIONS**  
**NOTIFICATION TO BIDDERS**

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n.” “Minority” groups are defined in Section 32-9n of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

---

**INSTRUCTIONS AND OTHER INFORMATION**

The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder’s good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) **Definition of Small Contractor**

Section 4a-60g CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 4a-60g CONN. GEN. STAT.

**MANAGEMENT:** Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

**BUSINESS AND FINANCIAL OPERATIONS:** These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

**MARKETING AND SALES:** Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

**LEGAL OCCUPATIONS:** In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

**COMPUTER SPECIALISTS:** Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists.

**ARCHITECTURE AND ENGINEERING:** Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

**OFFICE AND ADMINISTRATIVE SUPPORT:** All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

**BUILDING AND GROUNDS CLEANING AND MAINTENANCE:** This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

**CONSTRUCTION AND EXTRACTION:** This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category..

**INSTALLATION, MAINTENANCE AND REPAIR:** Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

**MATERIAL MOVING WORKERS:** The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

**PRODUCTION WORKERS:** The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

<p><u>White</u> (not of Hispanic Origin)- All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u>(not of Hispanic Origin)- All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
---	---

**BIDDER CONTRACT COMPLIANCE MONITORING REPORT**

**PART I - Bidder Information**

Company Name Street Address City & State Chief Executive	Bidder Federal Employer Identification Number _____ Or Social Security Number _____
Major Business Activity (brief description)	Bidder Identification (response optional/definitions on page 1)  -Bidder is a small contractor. Yes ___ No ___ -Bidder is a minority business enterprise Yes ___ No ___ (If yes, check ownership category) Black ___ Hispanic ___ Asian American ___ American Indian/Alaskan Native ___ Iberian Peninsula ___ Individual(s) with a Physical Disability ___ Female ___
Bidder Parent Company (If any)	- Bidder is certified as above by State of CT Yes___ No___
Other Locations in Ct. (If any)	

**PART II - Bidder Nondiscrimination Policies and Procedures**

1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes___ No___	7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes___ No___
2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes___ No___	8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes___ No___
3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes___ No___	9. Does your company have a mandatory retirement age for all employees? Yes___ No___
4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes ___ No ___	10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes ___ No ___ NA ___
5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes ___ No ___	11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes ___ No ___ NA ___
6. Does your company have a collective bargaining agreement with workers? Yes___ No___ 6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes___ No___ 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of Ct? Yes___ No___	12. Does your company have a written affirmative action Plan? Yes ___ No ___ If no, please explain.  13. Is there a person in your company who is responsible for equal employment opportunity? Yes ___ No ___ If yes, give name and phone number. _____

1. Will the work of this contract include subcontractors or suppliers? Yes\_\_ No\_\_

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above?

Yes\_\_ No\_\_

**PART IV - Bidder Employment Information**

Date:

JOB CATEGORY *	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	male	female
Management											
Business & Financial Ops											
Marketing & Sales											
Legal Occupations											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
Production Occupations											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

\*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)



1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification  (X)		3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source			
State Employment Service					Work Experience	
Private Employment Agencies					Ability to Speak or Write English	
Schools and Colleges					Written Tests	
Newspaper Advertisement					High School Diploma	
Walk Ins					College Degree	
Present Employees					Union Membership	
Labor Organizations					Personal Recommendation	
Minority/Community Organizations					Height or Weight	
Others (please identify)					Car Ownership	
					Arrest Record	
					Wage Garnishments	

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

(Signature)	(Title)	(Date Signed)	(Telephone)
-------------	---------	---------------	-------------

# DRAFT AIA<sup>®</sup> Document A201<sup>™</sup> - 2007

## General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

«Drafts»

«»

THE OWNER:

(Name, legal status and address)

«»

«»

THE ARCHITECT:

(Name, legal status and address)

«»

«»

### TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

#### ADDITIONS AND DELETIONS:

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

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

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



## INDEX

(Topics and numbers in bold are section headings.)

### Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

### Access to Work

**3.16**, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,  
10.2.8, 13.4.2, 13.7, 14.1, 15.2

Addenda

1.1.1, 3.11.1

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

### Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.5**

Additional Insured

11.1.4

### Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.5**

### Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

### Allowances

**3.8**, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

### Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.6.3, 9.7, 9.10,  
11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10,  
4.2.7, 9.3.2, 13.5.1

### Arbitration

8.3.1, 11.3.10, 13.1.1, 15.3.2, **15.4**

## ARCHITECT

### 4

Architect, Definition of

#### 4.1.1

Architect, Extent of Authority

2.4.1, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2,  
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,  
13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Architect, Limitations of Authority and  
Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,  
4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,  
9.4.2, 9.5.3, 9.6.4, 15.1.3, 15.2

Architect's Additional Services and Expenses

2.4.1, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.4.1, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,  
7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,  
13.5.2, 15.2, 15.3

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,  
3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18,  
4.1.2, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,  
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.4.2, 13.5,  
15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3.7

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

### Award of Subcontracts and Other Contracts for Portions of the Work

#### 5.2

### Basic Definitions

#### 1.1

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1.1, 15.2.5, 15.2.6.1, 15.3.1,  
15.3.2, 15.4.1

### Boiler and Machinery Insurance

#### 11.3.2

Bonds, Lien

7.3.7.4, 9.10.2, 9.10.3

### Bonds, Performance, and Payment

7.3.7.4, 9.6.7, 9.10.3, 11.3.9, **11.4**

Building Permit

3.7.1

### Capitalization

#### 1.3

Certificate of Substantial Completion  
9.8.3, 9.8.4, 9.8.5  
**Certificates for Payment**  
4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,  
9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3  
Certificates of Inspection, Testing or Approval  
13.5.4  
Certificates of Insurance  
9.10.2, 11.1.3  
**Change Orders**  
1.1.1, 2.4.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11.1, 3.12.8, 4.2.8,  
5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.6, 7.3.9, 7.3.10,  
8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9,  
12.1.2, 15.1.3  
**Change Orders, Definition of**  
**7.2.1**  
**CHANGES IN THE WORK**  
2.2.1, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 7.4.1, 8.3.1,  
9.3.1.1, 11.3.9  
**Claims, Definition of**  
**15.1.1**  
**CLAIMS AND DISPUTES**  
3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4  
Claims and Timely Assertion of Claims  
15.4.1  
**Claims for Additional Cost**  
3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, **15.1.4**  
**Claims for Additional Time**  
3.2.4, 3.7.4.6.1.1, 8.3.2, 10.3.2, **15.1.5**  
**Concealed or Unknown Conditions, Claims for**  
**3.7.4**  
Claims for Damages  
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,  
11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6  
Claims Subject to Arbitration  
15.3.1, 15.4.1  
**Cleaning Up**  
**3.15**, 6.3  
Commencement of the Work, Conditions Relating to  
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,  
6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1,  
15.1.4  
**Commencement of the Work, Definition of**  
**8.1.2**  
**Communications Facilitating Contract**  
**Administration**  
3.9.1, **4.2.4**  
Completion, Conditions Relating to  
3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,  
9.10, 12.2, 13.7, 14.1.2  
**COMPLETION, PAYMENTS AND**  
**9**  
Completion, Substantial  
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,  
12.2, 13.7

Compliance with Laws  
1.6.1, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4,  
10.2.2, 11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6,  
14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3  
Concealed or Unknown Conditions  
3.7.4, 4.2.8, 8.3.1, 10.3  
Conditions of the Contract  
1.1.1, 6.1.1, 6.1.4  
Consent, Written  
3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,  
9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2  
**Consolidation or Joinder**  
**15.4.4**  
**CONSTRUCTION BY OWNER OR BY**  
**SEPARATE CONTRACTORS**  
1.1.4, **6**  
**Construction Change Directive, Definition of**  
**7.3.1**  
**Construction Change Directives**  
1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**,  
9.3.1.1  
Construction Schedules, Contractor's  
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2  
**Contingent Assignment of Subcontracts**  
**5.4**, 14.2.2.2  
**Continuing Contract Performance**  
**15.1.3**  
**Contract, Definition of**  
**1.1.2**  
**CONTRACT, TERMINATION OR**  
**SUSPENSION OF THE**  
5.4.1.1, 11.3.9, **14**  
Contract Administration  
3.1.3, 4, 9.4, 9.5  
Contract Award and Execution, Conditions Relating  
to  
3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1  
Contract Documents, Copies Furnished and Use of  
1.5.2, 2.2.5, 5.3  
**Contract Documents, Definition of**  
**1.1.1**  
**Contract Sum**  
3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, **9.1**, 9.4.2, 9.5.1.4,  
9.6.7, 9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4,  
15.2.5  
**Contract Sum, Definition of**  
**9.1**  
Contract Time  
3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4,  
8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2,  
15.1.5.1, 15.2.5  
**Contract Time, Definition of**  
**8.1.1**  
**CONTRACTOR**  
**3**  
**Contractor, Definition of**  
**3.1**, **6.1.2**

## **Contractor's Construction Schedules**

**3.10**, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1,

## **Contractor's Liability Insurance**

### **11.1**

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8

Contractor's Relationship with the Architect

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3.1, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

9.7

Contractor's Right to Terminate the Contract

14.1, 15.1.6

Contractor's Submittals

3.10, 3.11, 3.12.4, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction

Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance

11.1.1.8, 11.2

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.2.5, 3.11

Copyrights

1.5, **3.17**

Correction of Work

2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**

## **Correlation and Intent of the Contract Documents**

### **1.2**

**Cost**, Definition of

### **7.3.7**

Costs

2.4.1, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.3, 12.1.2, 12.2.1, 12.2.4, 13.5, 14

## **Cutting and Patching**

**3.14**, 6.2.5

Damage to Construction of Owner or Separate Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4.1, 11.3.1, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Damages for Delay

6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

**Date of Commencement of the Work**, Definition of

### **8.1.2**

**Date of Substantial Completion**, Definition of

### **8.1.3**

**Day**, Definition of

### **8.1.4**

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2

**Decisions to Withhold Certification**

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 15.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1

**Delays and Extensions of Time**

3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Disputes

6.3, 7.3.9, 15.1, 15.2

**Documents and Samples at the Site**

### **3.11**

**Drawings**, Definition of

### **1.1.5**

Drawings and Specifications, Use and Ownership of

3.11

Effective Date of Insurance

8.2.2, 11.1.2

**Emergencies**

**10.4**, 14.1.1.2, 15.1.4

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Equipment, Labor, Materials or

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3

Extensions of Time  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,  
10.4.1, 14.3, 15.1.5, 15.2.5  
**Failure of Payment**  
9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2  
Faulty Work  
(See Defective or Nonconforming Work)  
**Final Completion and Final Payment**  
4.2.1, 4.2.9, 9.8.2, **9.10**, 11.1.2, 11.1.3, 11.3.1, 11.3.5,  
12.3.1, 14.2.4, 14.4.3  
Financial Arrangements, Owner's  
2.2.1, 13.2.2, 14.1.1.4  
Fire and Extended Coverage Insurance  
11.3.1.1

## **GENERAL PROVISIONS**

### **1**

#### **Governing Law**

##### **13.1**

Guarantees (See Warranty)

#### **Hazardous Materials**

##### **10.2.4, 10.3**

Identification of Subcontractors and Suppliers  
5.2.1

#### **Indemnification**

3.17, **3.18**, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,  
11.3.7

#### **Information and Services Required of the Owner**

2.1.2, **2.2**, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,  
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,  
13.5.2, 14.1.1.4, 14.1.4, 15.1.3

#### **Initial Decision**

##### **15.2**

#### **Initial Decision Maker, Definition of**

1.1.8

Initial Decision Maker, Decisions

14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,  
15.2.5

#### **Injury or Damage to Person or Property**

##### **10.2.8, 10.4.1**

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,  
9.9.2, 9.10.1, 12.2.1, 13.5

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2

#### **Instruments of Service, Definition of**

##### **1.1.7**

Insurance

3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, **11**

#### **Insurance, Boiler and Machinery**

##### **11.3.2**

#### **Insurance, Contractor's Liability**

##### **11.1**

Insurance, Effective Date of

8.2.2, 11.1.2

#### **Insurance, Loss of Use**

##### **11.3.3**

#### **Insurance, Owner's Liability**

##### **11.2**

#### **Insurance, Property**

##### **10.2.5, 11.3**

Insurance, Stored Materials

9.3.2

## **INSURANCE AND BONDS**

### **11**

Insurance Companies, Consent to Partial Occupancy

9.9.1

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4

#### **Interest**

##### **13.6**

#### **Interpretation**

1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12, 15.1.4

Judgment on Final Award

15.4.2

#### **Labor and Materials, Equipment**

1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,

9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13.1, 4.1.1, 9.6.4, 9.9.1,

10.2.2, 11.1.1, 11.3, 13.1.1, 13.4, 13.5.1, 13.5.2,

13.6.1, 14, 15.2.8, 15.4

Liens

2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 13.7, 15.4.1.1

Limitations of Liability

2.3.1, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,

4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3,

11.1.2, 11.2, 11.3.7, 12.2.5, 13.4.2

Limitations of Time

2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,

5.2, 5.3.1, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,

9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,

11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15

#### **Loss of Use Insurance**

##### **11.3.3**

Material Suppliers

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5

#### **Materials, Hazardous**

##### **10.2.4, 10.3**

Materials, Labor, Equipment and

1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12,

3.13.1, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2,

9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1,

14.2.1.2

Means, Methods, Techniques, Sequences and Procedures of Construction  
3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2  
Mechanic's Lien  
2.1.2, 15.2.8  
**Mediation**  
8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, **15.3**,  
15.4.1  
**Minor Changes in the Work**  
1.1.1, 3.12.8, 4.2.8, 7.1, **7.4**  
**MISCELLANEOUS PROVISIONS**  
**13**  
**Modifications, Definition of**  
**1.1.1**  
Modifications to the Contract  
1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,  
10.3.2, 11.3.1  
**Mutual Responsibility**  
**6.2**  
**Nonconforming Work, Acceptance of**  
9.6.6, 9.9.3, **12.3**  
Nonconforming Work, Rejection and Correction of  
2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3,  
9.10.4, 12.2.1  
Notice  
2.2.1, 2.3.1, 2.4.1, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1,  
9.7, 9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1,  
13.5.2, 14.1, 14.2, 15.2.8, 15.4.1  
**Notice, Written**  
2.3.1, 2.4.1, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7,  
9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, **13.3**, 14,  
15.2.8, 15.4.1  
**Notice of Claims**  
3.7.4, 10.2.8, **15.1.2**, 15.4  
Notice of Testing and Inspections  
13.5.1, 13.5.2  
Observations, Contractor's  
3.2, 3.7.4  
Occupancy  
2.2.2, 9.6.6, 9.8, 11.3.1.5  
Orders, Written  
1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1,  
13.5.2, 14.3.1  
**OWNER**  
**2**  
**Owner, Definition of**  
**2.1.1**  
**Owner, Information and Services Required of the**  
2.1.2, **2.2**, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2,  
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1,  
13.5.2, 14.1.1.4, 14.1.4, 15.1.3  
Owner's Authority  
1.5, 2.1.1, 2.3.1, 2.4.1, 3.4.2, 3.8.1, 3.12.10, 3.14.2,  
4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3,  
7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4,  
9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2,  
12.3.1, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Financial Capability  
2.2.1, 13.2.2, 14.1.1.4  
**Owner's Liability Insurance**  
**11.2**  
Owner's Relationship with Subcontractors  
1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2  
**Owner's Right to Carry Out the Work**  
**2.4**, 14.2.2  
**Owner's Right to Clean Up**  
**6.3**  
**Owner's Right to Perform Construction and to**  
**Award Separate Contracts**  
**6.1**  
**Owner's Right to Stop the Work**  
**2.3**  
Owner's Right to Suspend the Work  
14.3  
Owner's Right to Terminate the Contract  
14.2  
**Ownership and Use of Drawings, Specifications**  
**and Other Instruments of Service**  
1.1.1, 1.1.6, 1.1.7, **1.5**, 2.2.5, 3.2.2, 3.11.1, 3.17,  
4.2.12, 5.3.1  
**Partial Occupancy or Use**  
9.6.6, **9.9**, 11.3.1.5  
**Patching, Cutting and**  
**3.14**, 6.2.5  
Patents  
3.17  
**Payment, Applications for**  
4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,  
14.2.3, 14.2.4, 14.4.3  
**Payment, Certificates for**  
4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,  
9.10.3, 13.7, 14.1.1.3, 14.2.4  
**Payment, Failure of**  
9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2  
Payment, Final  
4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3.1,  
13.7, 14.2.4, 14.4.3  
**Payment Bond, Performance Bond and**  
**7.3.7.4**, 9.6.7, 9.10.3, **11.4**  
**Payments, Progress**  
9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3  
**PAYMENTS AND COMPLETION**  
**9**  
Payments to Subcontractors  
5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2  
PCB  
10.3.1  
**Performance Bond and Payment Bond**  
7.3.7.4, 9.6.7, 9.10.3, **11.4**  
**Permits, Fees, Notices and Compliance with Laws**  
2.2.2, **3.7**, 3.13, 7.3.7.4, 10.2.2  
**PERSONS AND PROPERTY, PROTECTION**  
**OF**  
**10**



Polychlorinated Biphenyl  
10.3.1  
**Product Data**, Definition of  
**3.12.2**  
**Product Data and Samples, Shop Drawings**  
3.11, **3.12**, 4.2.7  
**Progress and Completion**  
4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.3  
**Progress Payments**  
9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3  
**Project**, Definition of  
**1.1.4**  
Project Representatives  
4.2.10  
**Property Insurance**  
10.2.5, **11.3**  
**PROTECTION OF PERSONS AND PROPERTY**  
**10**  
Regulations and Laws  
1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1,  
10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14,  
15.2.8, 15.4  
Rejection of Work  
3.5, 4.2.6, 12.2.1  
Releases and Waivers of Liens  
9.10.2  
Representations  
3.2.1, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1,  
9.8.2, 9.10.1  
Representatives  
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1,  
5.1.2, 13.2.1  
Responsibility for Those Performing the Work  
3.3.2, 3.18, 4.2.3, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10  
Retainage  
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3  
**Review of Contract Documents and Field**  
**Conditions by Contractor**  
**3.2**, 3.12.7, 6.1.3  
Review of Contractor's Submittals by Owner and  
Architect  
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2  
Review of Shop Drawings, Product Data and  
Samples by Contractor  
3.12  
**Rights and Remedies**  
1.1.2, 2.3, 2.4, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,  
6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4,  
**13.4**, 14, 15.4  
**Royalties, Patents and Copyrights**  
**3.17**  
Rules and Notices for Arbitration  
15.4.1  
**Safety of Persons and Property**  
**10.2**, 10.4  
**Safety Precautions and Programs**  
3.3.1, 4.2.2, 4.2.7, 5.3.1, **10.1**, 10.2, 10.4

**Samples**, Definition of  
**3.12.3**  
**Samples, Shop Drawings, Product Data and**  
3.11, **3.12**, 4.2.7  
**Samples at the Site, Documents and**  
**3.11**  
**Schedule of Values**  
**9.2**, 9.3.1  
Schedules, Construction  
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2  
Separate Contracts and Contractors  
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2  
**Shop Drawings**, Definition of  
**3.12.1**  
**Shop Drawings, Product Data and Samples**  
3.11, **3.12**, 4.2.7  
**Site, Use of**  
**3.13**, 6.1.1, 6.2.1  
Site Inspections  
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5  
Site Visits, Architect's  
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5  
Special Inspections and Testing  
4.2.6, 12.2.1, 13.5  
**Specifications**, Definition of  
**1.1.6**  
**Specifications**  
1.1.1, **1.1.6**, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14  
Statute of Limitations  
13.7, 15.4.1.1  
Stopping the Work  
2.3, 9.7, 10.3, 14.1  
Stored Materials  
6.2.1, 9.3.2, 10.2.1.2, 10.2.4  
**Subcontractor**, Definition of  
**5.1.1**  
**SUBCONTRACTORS**  
**5**  
Subcontractors, Work by  
1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2,  
9.6.7  
**Subcontractual Relations**  
**5.3**, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1  
Submittals  
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3,  
9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3  
Submittal Schedule  
3.10.2, 3.12.5, 4.2.7  
**Subrogation, Waivers of**  
6.1.1, **11.3.7**  
**Substantial Completion**  
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3,  
12.2, 13.7  
**Substantial Completion**, Definition of  
**9.8.1**  
Substitution of Subcontractors  
5.2.3, 5.2.4

Substitution of Architect  
4.1.3  
Substitutions of Materials  
3.4.2, 3.5, 7.3.8  
**Sub-subcontractor**, Definition of  
**5.1.2**  
Subsurface Conditions  
3.7.4  
**Successors and Assigns**  
**13.2**  
**Superintendent**  
**3.9**, 10.2.6  
**Supervision and Construction Procedures**  
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,  
7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3  
Surety  
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7  
Surety, Consent of  
9.10.2, 9.10.3  
Surveys  
2.2.3  
**Suspension by the Owner for Convenience**  
**14.3**  
Suspension of the Work  
5.4.2, 14.3  
Suspension or Termination of the Contract  
5.4.1.1, 14  
**Taxes**  
3.6, 3.8.2.1, 7.3.7.4  
**Termination by the Contractor**  
**14.1**, 15.1.6  
**Termination by the Owner for Cause**  
5.4.1.1, **14.2**, 15.1.6  
**Termination by the Owner for Convenience**  
**14.4**  
Termination of the Architect  
4.1.3  
Termination of the Contractor  
14.2.2  
**TERMINATION OR SUSPENSION OF THE CONTRACT**  
**14**  
**Tests and Inspections**  
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,  
9.10.1, 10.3.2, 11.4.1.1, 12.2.1, **13.5**  
**TIME**  
**8**  
**Time, Delays and Extensions of**  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7,  
10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5  
Time Limits  
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,  
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5,  
13.7, 14, 15.1.2, 15.4

**Time Limits on Claims**  
3.7.4, 10.2.8, **13.7**, 15.1.2  
Title to Work  
9.3.2, 9.3.3  
**Transmission of Data in Digital Form**  
**1.6**  
**UNCOVERING AND CORRECTION OF WORK**  
**12**  
**Uncovering of Work**  
**12.1**  
Unforeseen Conditions, Concealed or Unknown  
3.7.4, 8.3.1, 10.3  
Unit Prices  
7.3.3.2, 7.3.4  
Use of Documents  
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3  
**Use of Site**  
**3.13**, 6.1.1, 6.2.1  
**Values, Schedule of**  
**9.2**, 9.3.1  
Waiver of Claims by the Architect  
13.4.2  
Waiver of Claims by the Contractor  
9.10.5, 13.4.2, 15.1.6  
Waiver of Claims by the Owner  
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6  
Waiver of Consequential Damages  
14.2.4, 15.1.6  
Waiver of Liens  
9.10.2, 9.10.4  
**Waivers of Subrogation**  
6.1.1, **11.3.7**  
**Warranty**  
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7.1  
Weather Delays  
15.1.5.2  
**Work**, Definition of  
**1.1.3**  
Written Consent  
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5,  
9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2  
Written Interpretations  
4.2.11, 4.2.12  
Written Notice  
2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7,  
9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, **13.3**, 14,  
15.4.1  
Written Orders  
1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1,  
15.1.2

## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 BASIC DEFINITIONS**

#### **§ 1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

#### **§ 1.1.2 THE CONTRACT**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### **§ 1.1.3 THE WORK**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### **§ 1.1.4 THE PROJECT**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

#### **§ 1.1.5 THE DRAWINGS**

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

#### **§ 1.1.6 THE SPECIFICATIONS**

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

#### **§ 1.1.7 INSTRUMENTS OF SERVICE**

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

#### **§ 1.1.8 INITIAL DECISION MAKER**

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

### **§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS**

**§ 1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

**§ 1.2.2** Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

**§ 1.2.3** Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### **§ 1.3 CAPITALIZATION**

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

### **§ 1.4 INTERPRETATION**

In the interest of brevity the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### **§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE**

**§ 1.5.1** The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

**§ 1.5.2** The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

### **§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM**

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

## **ARTICLE 2 OWNER**

### **§ 2.1 GENERAL**

**§ 2.1.1** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner’s approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term “Owner” means the Owner or the Owner’s authorized representative.

**§ 2.1.2** The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic’s lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner’s interest therein.

### **§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

**§ 2.2.1** Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

**§ 2.2.2** Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

**§ 2.2.3** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

**§ 2.2.4** The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

**§ 2.2.5** Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

### **§ 2.3 OWNER'S RIGHT TO STOP THE WORK**

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

### **§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

## **ARTICLE 3 CONTRACTOR**

### **§ 3.1 GENERAL**

**§ 3.1.1** The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

**§ 3.1.2** The Contractor shall perform the Work in accordance with the Contract Documents.

**§ 3.1.3** The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

### **§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR**

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

**§ 3.2.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

**§ 3.2.3** The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

**§ 3.2.4** If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

### **§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

**§ 3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

**§ 3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

**§ 3.3.3** The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

### **§ 3.4 LABOR AND MATERIALS**

**§ 3.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**§ 3.4.2** Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

**§ 3.4.3** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

### **§ 3.5 WARRANTY**

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

### **§ 3.6 TAXES**

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### **§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS**

**§ 3.7.1** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

**§ 3.7.2** The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

**§ 3.7.3** If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

**§ 3.7.4 Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

**§ 3.7.5** If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

### **§ 3.8 ALLOWANCES**

**§ 3.8.1** The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct,

but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

**§ 3.8.2** Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

**§ 3.8.3** Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

**§ 3.9 SUPERINTENDENT**

**§ 3.9.1** The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

**§ 3.9.2** The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

**§ 3.9.3** The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

**§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES**

**§ 3.10.1** The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

**§ 3.10.2** The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

**§ 3.10.3** The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

**§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE**

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.



## **§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

**§ 3.12.1** Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

**§ 3.12.2** Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

**§ 3.12.3** Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

**§ 3.12.4** Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

**§ 3.12.5** The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

**§ 3.12.6** By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

**§ 3.12.7** The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

**§ 3.12.8** The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

**§ 3.12.9** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

**§ 3.12.10** The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled

to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

### **§ 3.13 USE OF SITE**

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### **§ 3.14 CUTTING AND PATCHING**

**§ 3.14.1** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

**§ 3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

### **§ 3.15 CLEANING UP**

**§ 3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

**§ 3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

### **§ 3.16 ACCESS TO WORK**

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

### **§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

### **§ 3.18 INDEMNIFICATION**

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

other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

**§ 3.18.2** In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

## **ARTICLE 4 ARCHITECT**

### **§ 4.1 GENERAL**

**§ 4.1.1** The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

**§ 4.1.2** Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

**§ 4.1.3** If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

### **§ 4.2 ADMINISTRATION OF THE CONTRACT**

**§ 4.2.1** The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

**§ 4.2.2** The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

**§ 4.2.3** On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### **§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION**

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

**§ 4.2.5** Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

**§ 4.2.6** The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the

Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

**§ 4.2.7** The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

**§ 4.2.8** The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

**§ 4.2.9** The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

**§ 4.2.10** If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

**§ 4.2.11** The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

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

**§ 4.2.13** The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

**§ 4.2.14** The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

## **ARTICLE 5 SUBCONTRACTORS**

### **§ 5.1 DEFINITIONS**

**§ 5.1.1** A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

**§ 5.1.2** A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term “Sub-subcontractor” is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

## **§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK**

**§ 5.2.1** Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

**§ 5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

**§ 5.2.3** If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor’s Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsibly in submitting names as required.

**§ 5.2.4** The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

## **§ 5.3 SUBCONTRACTUAL RELATIONS**

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor’s Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

## **§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS**

**§ 5.4.1** Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor’s rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

## **ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

### **§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS**

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

### **§ 6.2 MUTUAL RESPONSIBILITY**

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

### § 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

### § 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

### § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

**§ 7.3.7** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

**§ 7.3.8** The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

**§ 7.3.9** Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

**§ 7.3.10** When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### **§ 7.4 MINOR CHANGES IN THE WORK**

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

### **ARTICLE 8 TIME**

#### **§ 8.1 DEFINITIONS**

**§ 8.1.1** Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

**§ 8.1.2** The date of commencement of the Work is the date established in the Agreement.

**§ 8.1.3** The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

**§ 8.1.4** The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### **§ 8.2 PROGRESS AND COMPLETION**

**§ 8.2.1** Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

**§ 8.2.2** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be



furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

**§ 8.2.3** The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

### **§ 8.3 DELAYS AND EXTENSIONS OF TIME**

**§ 8.3.1** If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

**§ 8.3.2** Claims relating to time shall be made in accordance with applicable provisions of Article 15.

**§ 8.3.3** This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

## **ARTICLE 9 PAYMENTS AND COMPLETION**

### **§ 9.1 CONTRACT SUM**

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

### **§ 9.2 SCHEDULE OF VALUES**

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

### **§ 9.3 APPLICATIONS FOR PAYMENT**

**§ 9.3.1** At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

**§ 9.3.1.1** As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

**§ 9.3.1.2** Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

**§ 9.3.2** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

**§ 9.3.3** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the

Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

#### § 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

#### § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

#### § 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

**§ 9.6.2** The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

**§ 9.6.3** The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

**§ 9.6.4** The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

**§ 9.6.5** Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

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

**§ 9.6.7** Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

#### **§ 9.7 FAILURE OF PAYMENT**

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

#### **§ 9.8 SUBSTANTIAL COMPLETION**

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

**§ 9.8.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**§ 9.8.3** Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

**§ 9.8.4** When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

### **§ 9.9 PARTIAL OCCUPANCY OR USE**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**§ 9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**§ 9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

### **§ 9.10 FINAL COMPLETION AND FINAL PAYMENT**

**§ 9.10.1** Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**§ 9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

**§ 9.10.3** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**§ 9.10.4** The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

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

## **ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY**

### **§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS**

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

### **§ 10.2 SAFETY OF PERSONS AND PROPERTY**

**§ 10.2.1** The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

**§ 10.2.2** The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

**§ 10.2.3** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

**§ 10.2.4** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

**§ 10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

**§ 10.2.6** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

**§ 10.2.7** The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

**§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY**

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

**§ 10.3 HAZARDOUS MATERIALS**

**§ 10.3.1** The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

**§ 10.3.2** Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

**§ 10.3.3** To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

**§ 10.3.4** The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

**§ 10.3.5** The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

**§ 10.3.6** If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

## § 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

### § 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

### § 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's

risk “all-risk” or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

**§ 11.3.1.1** Property insurance shall be on an “all-risk” or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect’s and Contractor’s services and expenses required as a result of such insured loss.

**§ 11.3.1.2** If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

**§ 11.3.1.3** If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

**§ 11.3.1.4** This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

**§ 11.3.1.5** Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

### **§ 11.3.2 BOILER AND MACHINERY INSURANCE**

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

### **§ 11.3.3 LOSS OF USE INSURANCE**

The Owner, at the Owner’s option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner’s property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner’s property, including consequential losses due to fire or other hazards however caused.

**§ 11.3.4** If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

**§ 11.3.5** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.



§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

#### § 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

#### § 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

### ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

#### § 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

## **§ 12.2 CORRECTION OF WORK**

### **§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

### **§ 12.2.2 AFTER SUBSTANTIAL COMPLETION**

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

**§ 12.2.2.2** The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

**§ 12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

**§ 12.2.3** The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

**§ 12.2.4** The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

**§ 12.2.5** Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

## **§ 12.3 ACCEPTANCE OF NONCONFORMING WORK**

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

### § 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

### § 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

### § 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

### § 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

### § 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

### § 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

### § 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

### § 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

- 4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

#### § 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

#### § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

### ARTICLE 15 CLAIMS AND DISPUTES

#### § 15.1 CLAIMS

##### § 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

### § 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

### § 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

### § 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

### § 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

### § 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

### § 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

**§ 15.2.3** In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

**§ 15.2.4** If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

**§ 15.2.5** The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

**§ 15.2.6** Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

**§ 15.2.6.1** Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

**§ 15.2.7** In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

**§ 15.2.8** If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

## **§ 15.3 MEDIATION**

**§ 15.3.1** Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

**§ 15.3.3** The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

## **§ 15.4 ARBITRATION**

**§ 15.4.1** If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The

party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

**§ 15.4.1.1** A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

**§ 15.4.2** The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

**§ 15.4.3** The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

**§ 15.4.4 CONSOLIDATION OR JOINDER**

**§ 15.4.4.1** Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

**§ 15.4.4.2** Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

**§ 15.4.4.3** The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.



ADVERTISEMENT AND BID DOCUMENTS  
SUPPLEMENTARY GENERAL CONDITIONS

The General Conditions of this contract are stated in the AIA document A201, “General Conditions of the Contract for Construction” – 2007; a copy of which is bound in with this specification.

These supplementary Conditions contain changes and or additions to the General Conditions, which where they are not specifically herein modified remain in full effect.

Article 1. – General Provisions

1.1.1 Delete the last sentence beginning “Unless specifically enumerated.” and substitute the following:

The Contract Documents also include the Contract Proposal Form and the General Bidding Instructions and all other documents listed in 1.1.7 (PROJECT MANUAL).

1.2 Add the following subparagraph 1.2.3.1:

When applied to materials and equipment required for work, the words “furnish”, “install”, and “provide” shall mean the following. The word provide shall mean to furnish, pay for, deliver, install, adjust, clean, and otherwise make materials and equipment fit and ready for their intended use. The word “furnish” shall mean to secure, pay for deliver to site, unload, and uncrate materials and equipment. The word “install” shall mean to unload, uncrate, place in position, incorporate in the work, adjust clean, make fit and ready for use, and perform all services for materials and/or equipment furnished by others. The phrase “furnish and install” shall be equivalent to the word “provide”. Each shall be interpreted to mean “the Contractor shall furnish all labor, material, and equipment and install...”

Add the following subparagraph 1.2.3.2:

In the event of a conflict between the documents, the following shall be the order of precedence:

1. Amendments and addenda shall take precedence over the Specifications.
2. The Specification shall take precedence over the drawings.
3. Stated dimensions shall take precedence over small scale dimensions.
4. Large scale detail drawings shall take precedence over small scale drawings.
5. Schedules shall take precedence over other data on the drawings.

Roof Replacement for  
Robert J. O’Brien Elementary School  
East Hartford, CT

Add the following subparagraph 1.2.3.3:

In case of a difference between Drawings and Specifications or within either document itself in describing the work, the better quality, greater quantity, or more costly work will be assumed to be and shall be included in the contract price. Refer the matter to the Architect's attention for resolution prior to bid opening.

Add the following subparagraph 1.2.4:

Before ordering any material or doing any work, the Contractor in all cases shall verify all locations, types, quantities and conditions of materials and shall be responsible for correctness of same.

Add the following subparagraph 1.2.6:

All work shown or referred to in the contract Documents shall be included in the Contract excepting those items which are specifically noted as being "provided under another contract", or "provided by the Owner" or "not in the contract (NIC)"

Add the following subparagraph 1.2.7:

Parties to the contract shall not take advantage of obvious errors or apparent discrepancies in Contract Documents. Notice of discovered error or discrepancy shall immediately be given in writing to the Architect to make such corrections and interpretations as he may deem necessary for completion of the work in a satisfactory and acceptable manner.

## Article 2. – Owner

### 2.2 Information and Services Required of the Owner

#### 2.2.5 Delete completely and substitute the following:

Two (2) sets of plans and specifications will be furnished to the bidder or bidders upon award of the contract. Additional sets may be purchased from Hibbard & Rosa Architects, LLC for \$100.00 for one set of plans and one set of specifications.

### 2.3 Owner's Right to Stop the Work

Add the following subparagraph 2.3.2:

All work and practices of an unsafe nature and not in accordance with the terms of the contract will be disallowed by the Owner or Owner's Representative. The Contractor shall promptly improve on said practices to the satisfaction of the Owner or the Owner's Representative.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

Add the following subparagraph 2.3.3:

Neither the final payment nor any partial payment relieves the Contractor of responsibility for faulty materials or workmanship, and unless otherwise specified, they shall make right any defect due therefrom which occurs within the same area.

Add the following subparagraph 2.3.4:

The Owner or Owner's Representative have the authority to stop work whenever the continuation of work threatens the building environment or creates an unsafe condition and the Contractor has not taken appropriate actions to correct deficiencies even when notified and given time to respond.

### Article 3. – Contractor

#### 3.1 General

Add the following subparagraph 3.1.4:

The Contractor shall schedule a Pre-Construction meeting with the Owner, Architect, building staff and all other interested parties to review the project and scope of work. The Pre-Construction meeting will be scheduled after the notice of award and prior to the start of any work. The Pre-Construction meeting will be held at the site and will at a minimum include the following:

1. Review scope of work.
2. Review project logistics including but not limited to; site access, storage of materials, removal of debris, interruptions to building operations.
3. Working hours.
4. Contractor's personnel who will have access to the building interior.
5. Staff points of contact.

The Architect will prepare and distribute minutes of the meeting.

#### 3.6.1 Taxes

Add the following subparagraph 3.6.2:

Under the terms of the regulation 16, referring to Contractors and Subcontractors, issued by the State Tax Commission in administration of the State Sales and Use Tax, to which bidder is referred, the Contractor may purchase materials or supplies to be consumed in the performance of the Contract without payment of tax and shall not include in his bid nor change any use or sales tax thereon.

### 3.7 Permits, Fees, Notices

Add the following subparagraph 3.7.1:

The Town of East Hartford will waive the Town's portion of the Building Permit Fee. The Contractor shall be responsible to pay the State of Connecticut's portion of the building permit fee. The Contractor shall pay costs charged by utility companies for service connections, inspections and tests, and related utility company fees normally assessed as a part of the construction process.

Add the following subparagraph 3.7.1.1:

Contractor shall post building permit at job site.

Add the following subparagraph 3.7.5:

It is the Contractor's responsibility to secure all necessary permits and send out proper notifications. Contractor shall bear the cost of all fees above and beyond local building permits. The Contractor shall be responsible for obtaining Certificate of Occupancy and/or Compliance as might be required by the regulating authorities.

### 3.9 Superintendent

Add the following subparagraph 3.9.4:

The superintendent shall be called a Site Supervisor for purposes of this contract. He will also serve as a competent person per OSHA 29 CFR 1926.1101.

Add the following subparagraph 3.9.5:

The Site Supervisor/Competent Person will be present whenever work of any type is being performed on this project.

### 3.10 Contractor's Construction Schedules:

Add the following subparagraph 3.10.4:

Liquidated damages of \$100.00 per calendar day will be assessed for late completion of the work.

3.12 Use of the Site

Add the following subparagraph 3.12.11:

Contractor shall submit letter of certification to the Architect for materials and assemblies which are required to have a flame spread or fire rating as described and required by applicable codes and the specifications.

3.17 Royalties and Patents

Add the following subparagraph 3.17.2:

The Contractor shall bear all costs for Patent Infringement penalties, fees and legal costs. The Contractor is responsible for his own licensing on Patents or be prepared to fully defend his discussion on the issue.

3.18 Indemnification

Add the following subparagraph 3.18.2.1:

To the fullest extent permitted by the law, prior to commencing work, the Contractor shall ensure that each subcontractor shall enter into an agreement under which it shall indemnify and hold harmless The Town of East Hartford, its officers, agents, servants and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys fees, arising out of or resulting from the performance or lack or performance of the work, provided that any such claim, damage, loss or expense (1) 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 (2) is caused in whole or in part by any negligent act or omission of the subcontractor, any subcontractor, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person. If any and all claims against anyone hereunder by an employee of the subcontractor, or sub-subcontractor, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this section 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 subcontractor or any sub-subcontractor under the Worker's Compensation Acts, Disability Benefits Acts or other employee benefits act.

## Article 7 – Changes in Work

### 7.1 Changes

#### 7.1.1 Delete completely and substitute the following:

Changes in work may be accomplished after the execution of the Contract, and without invalidating the Contract, by Change Order.

#### 7.1.2 Delete paragraph completely.

### 7.2 Change Orders

#### 7.2.2 Add the following subparagraph 7.2.2 :

If the cost or credit to the Town of East Hartford resulting from a change in the work is determined under clause 7.3.3.1 or 7.3.3.3, the following value of such cost or credit shall be determined as follows:

1. The cost of labor performed and material used by the Contractor with his own forces.
2. The cost of workman's compensation, Federal Social Security, and Connecticut Unemployment Compensation in established rates, actual additional cost of payment and performance bond.
3. Actual cost of rental rates for equipment employed and used directly on the work. The cost of the Contractor's own equipment shall be based upon rates set forth in the Associated Equipment Dealer's green book.
4. Fifteen percent (15%) of .1, .2, and .3 above-mentioned for overhead, superintendence, and profit; however, if the work to be performed results in a credit to the Town of East Hartford, no percentage of overhead and profit will apply.
5. On work to be performed by a Subcontractor, the Contractor's allowance is to be five (5%) applied to a total cost of Subcontractor's work, including his allowance as per Paragraph 7. The total allowance of the Subcontractor and Contractor shall be fifteen (15%).
6. On any changes involving the Contractor, Subcontractor, or any Contractor of theirs, their total cost and/or omissions shall be combined as one before the application of the percentage allowed for the Contractor's overhead and profit in accordance with Paragraph .5 above.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

7. On work to be performed by a subcontractor, the Subcontractor's allowance is to be ten percent (10%) for his overhead and profit applied to paragraphs .1, .2, and .3 above.
8. The Contractor, when performing work under .3 shall, when requested, promptly furnish in a form satisfactory to the Town of East Hartford, itemized statements of the cost of the work so ordered, including but not limited to, certified payrolls and copies of accounts, bills and vouchers to substantiate the above estimates.

### 7.3 Construction Change Directives

Add the following:

- 7.3.5 The "mutually acceptable fixed or percentage fee" referred to in paragraph 7.3.3.3 and the "reasonable allowance for overhead and profit" referred to in 7.3.6 shall be as follows: For work performed by General Contractor, cost to Owner may include allowance for overhead and profit not to exceed 15 % of the net cost of the work as defined above.
- 7.3.8 Delete paragraph completely

### Article 8 – Time

- 8.3.1 Delete the following from subparagraph 8.3.1:

"or by delay authorized by the owner pending mediation and arbitration"

### Article 9 – Payments and Completion

#### 9.3 Applications for Payment

- 9.3.1.1 Delete paragraph completely

#### 9.4 Certificates for Payment

- 9.4.1 In first sentence of paragraph change "seven" to "ten".

Add the following subparagraph 9.4.1.1:

The amount paid the contractor shall be the amount due less five percent (5%) retainage. The retainage will be held by the Owner until the completion of the work.

Add the following subparagraph 9.4.1.2:

The Owner will within thirty (30) calendar days after approval of the application for Payment by the Building Committee , pay the Contractor the due amount, as approved by the Project Architect.

9.5 Decisions to Withhold Certification

Add the following subparagraph 9.5.2.1:

All prior payments are subject to corrections, adjustments made for such corrections may be made only by submission of a corrected Application for Payment.

9.6 Progress Payments

Add the following subparagraph 9.6.8:

No interest is to be allowed or paid by the Town of East Hartford upon any moneys retained under the provisions of this contract.

Add the following subparagraph 9.6.9:

four (4) copies of the Certificate for Payment shall be forwarded to Mr. Thomas Hibbard, Architect, Hibbard & Rosa Architects, LLC. The Contractor shall include two (2) copies of the Certified Payrolls and OSHA 10 cards along with each submission for payment.

9.7 Failure of Payment

9.7.1 In the first sentence of the paragraph, change “seven” to “ten” and “ten” to “fifteen”

9.10 Final Completion and Final Payment

Add the following subparagraph 9.10.1.1:

Upon notice, verbal or written, from the Contractor that the work is complete, the Architect or other designated representative will make a final inspection of the work with the Contractor and will notify him of any defective work and the corrective measure to be taken. The Contractor shall immediately take steps to rectify any defective work.

Add the following subparagraph 9.10.1.2:

After the Contractor has completed any such corrections to the satisfaction of the



Architect or other designated representative and delivered all documents as required by the Contract Documents, the Contractor may make application for final payment following the procedure for progress payment. The final application for payment shall be accompanied by such supporting data as the Architect or other designated representative may require, such as legally effective releases or waivers of all liens arising from the Contract Documents for Labor Services, material and equipment furnished hereunder.

Add the following subparagraph 9.10.1.3:

If, on the basis of his observations and review of the work during construction, his final inspection and his approval of the final application for payment, the Architect is satisfied that the work has been completed and that the Contractor has fulfilled all his obligations under the Contract Documents, he will within ten (10) days present the Application for Payment. Otherwise, he will return the application to the Contractor, indicating his reasons for refusal in writing, in which case the Contractor will make the necessary corrections and resubmit the application.

Add the following subparagraph 9.10.1.4:

Before issuance, and as a condition of final payment, the Contractor shall deliver the Certificate of Occupancy to the Owner. If a certificate of Occupancy is not required, deliver a letter from the Building Official saying so.

Add the following subparagraph 9.10.6:

The Contractor who is selected to perform this State project must comply with CT General Statutes 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5. An Affirmative Action Plan must be filed with and approved by the Commission on Human Rights and Opportunities prior to the commencement of construction.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract be set aside for award to subcontractors holding current certification from the Connecticut Department of Administrative services (DAS) under provisions of CT General Statute 4a-60g, as amended. **(25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.)** The Contractor must demonstrate good faith effort to meet the twenty-five (25%) set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

[http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav\\_GID=1806](http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806)

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## Article 11 – Insurance and Bonds

### 11.1 Contractor’s Liability Insurance

Delete the semicolon at the end of clause 11.1.1.1 and add:

including private entities performing work at the site and exempt from coverage on account of the number of employees or occupation, which entities shall maintain voluntary compensation coverage at the same limits specified for mandatory coverage for the duration of the project;

Delete the semicolon at the end of clause 11.1.1.2 and add:

persons or entities excluded by statute from the requirements of clause 11.1.1.1 but required by the Contract Documents to provide the insurance required by that clause.

Add the following subparagraph 11.1.1.9:

Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premise operations (including X, C and U coverage’s as applicable)
2. Independent Contractors’ Protective.
3. Products and Completed Operations.
4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual, including specified provision for Contractor’s obligation under paragraph 3.18
6. Owned, non-owned and hired motor vehicles.
7. Broad Form Property Damage including Completed Operations.

Add the following subparagraph 11.1.1.10:

If the General Liability coverage’s are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or retroactive date shall predate the contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverage’s required to be maintained after final payment, certified in accordance with subparagraph 9.10.2.

Add the following subparagraph 11.1.1.11:

General Liability Insurance shall be as follows:

Premise and Operations.  
Explosions, Collapse, and Underground Hazards.  
Independent Contractors.  
Broad Form Property Damage.  
Contractual Liability.  
Products and Completed Operations.  
Personal Injury with Employment Exclusion Deleted.  
Occurrence basis.

Bodily Injury:

Each person: \$1,000,000.00  
Each occurrence: \$1,000,000.00

Property damage:

Each occurrence: \$1,000,000.00  
Aggregate: \$1,000,000.00

Comprehensive Automobile Liability Insurance shall include non-owned and hired automobiles. Coverage's shall be as follows:

Bodily Injury:

Each person \$1,000,000.00  
Each occurrence \$1,000,000.00

Property damage:

Each accident: \$1,000,000.00

Workman's Compensation:

Connecticut Statutory Coverage

Employer's Liability:

Each person: \$1,000,000.00  
Each occurrence: \$1,000,000.00

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

Thirty (30) day notice of cancellation on all policies is required.

All certificates shall be made out to the Contractor and all liability policies shall name the Town of East Hartford, as an additional insured.

Add the following subparagraph 11.1.12:

Submit ACORD insurance certificates with AIA Document C715 Attachment in triplicate. Answer all questions. Include title of authorized representative who signed certificate and the following statement “ A copy of this certificate is on file in the office of the insurance company which underwrites the policy”.

#### 11.2 Owner’s Liability Insurance

Add the following subparagraph 11.2.2:

Until the work is completed and accepted by the Owner, the Contractor shall purchase and maintain property insurance upon the whole work at the Site to the full insurance value thereof.

#### 11.3 Property Insurance

Add the following subparagraph 11.3.1.6:

All losses defined which are not recoverable by virtue of the \$10,000 Deductible clause shall be absorbed by the Contractor. Equipment and tools of the trade are at the risk of the Contractor. Other losses not covered by this policy will be absorbed by the Contractor.

#### 11.4 Performance Bond and Payment Bond

Add the following subparagraph 11.4.3:

Furnish Performance Bond and Payment Bond for 100% of the Contract Amount, written by a surety licensed to do business in the State of Connecticut.

### Article 13 – Miscellaneous Provisions

#### 13.1 Governing Law

Add the following subparagraph 13.1.2:

Roof Replacement for  
Robert J. O’Brien Elementary School  
East Hartford, CT

The Contract shall comply with all applicable laws, regulations, and requirements, Federal, State of Connecticut and Local. All State, County and Town codes and ordinances are applicable. The Contractor shall adhere to all OSHA job safety requirements, and otherwise observe safe working practices. All details of the work shall be made in strict accordance with the latest edition of the National Electrical code.

13.6 Interest

Delete paragraph 13.6 in its entirety

13.8 Expenses Incurred as a Result of Default or Breach

Add the following paragraph 13.8:

If any party of this contract shall default or breach any of its Obligations, the defaulting or breaching party shall pay to the non- defaulting/breaching party all reasonable cost and expenses incurred in enforcing this contract, including a reasonable attorney fee.

13.9 Prevailing Wage Requirements

Add the following paragraphs 13.9.1:

Attention is called to the fact that no less than the prevailing wage rates set forth by the State of Connecticut pursuant to section 31-53/31-54 of the Connecticut General Statutes as amended and as referenced in the Specifications must be paid on this project. Such schedule will be furnished to any person requesting the same at no cost. Attention is called to the requirements for Workman's Compensation and Condition of Employment.

Add the following subparagraph 13.9.2:

A list of applicable prevailing wage rates must be posted in a conspicuous location at the work site for all of the Contractor's employees to see.

Article 14 – Termination or Suspension of the Contract

14.1 Termination by the Contractor

Add the following subparagraph 14.1.1.5:

Fails to remedy defective work.

Add the following subparagraph 14.1.1.6:

Third party claims against owner or reasonable evidence indicating probability of filing of such claim or claims.

Add the following subparagraph 14.1.1.7:

Reasonable evidence that work will not be completed within the Contract time.

Add the following subparagraph 14.1.1.8:

Persistent failure to carry out the work in accordance with the Contract Documents.

Add the following subparagraph 14.1.1.9:

Unnecessary or unreasonable delay in performing the work.

Add the following subparagraph 14.1.1.10:

This contract may be terminated if the Contractor is adjudged bankrupt, or, if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency.

14.2 Termination by the Owner for Cause

Delete completely and substitute the following subparagraph 14.2.2.3:

Furnish the work by whatever reasonable method the Owner may deem expedient.

14.3 Termination by the Owner for convenience

14.4.3 Delete completely and substitute the following:

14.4.3 In the case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the work executed.

End of Supplementary Conditions

# AIA<sup>®</sup> Document A104<sup>®</sup> – 2017

## Standard Abbreviated Form of Agreement Between Owner and Contractor

**AGREEMENT** made as of the  day of  in the year  
*(In words, indicate day, month and year.)*

**BETWEEN** the Owner:  
*(Name, legal status, address and other information)*

DRAFT

and the Contractor:  
*(Name, legal status, address and other information)*

for the following Project:  
*(Name, location and detailed description)*

DRAFT

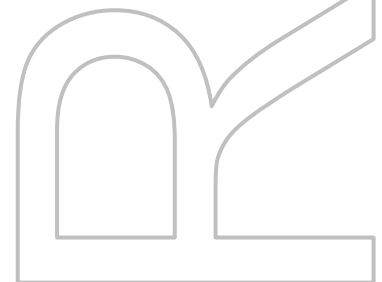
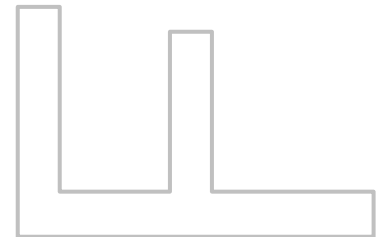
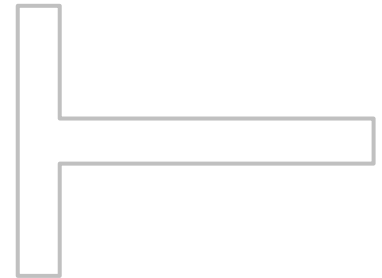
The Architect:  
*(Name, legal status, address and other information)*

The Owner and Contractor agree as follows.

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

**TABLE OF ARTICLES**

- 1 THE WORK OF THIS CONTRACT**
- 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**
- 3 CONTRACT SUM**
- 4 PAYMENT**
- 5 DISPUTE RESOLUTION**
- 6 ENUMERATION OF CONTRACT DOCUMENTS**
- 7 GENERAL PROVISIONS**
- 8 OWNER**
- 9 CONTRACTOR**
- 10 ARCHITECT**
- 11 SUBCONTRACTORS**
- 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**
- 13 CHANGES IN THE WORK**
- 14 TIME**
- 15 PAYMENTS AND COMPLETION**
- 16 PROTECTION OF PERSONS AND PROPERTY**
- 17 INSURANCE AND BONDS**
- 18 CORRECTION OF WORK**
- 19 MISCELLANEOUS PROVISIONS**
- 20 TERMINATION OF THE CONTRACT**
- 21 CLAIMS AND DISPUTES**
- EXHIBIT A DETERMINATION OF THE COST OF THE WORK**



**ARTICLE 1 THE WORK OF THIS CONTRACT**

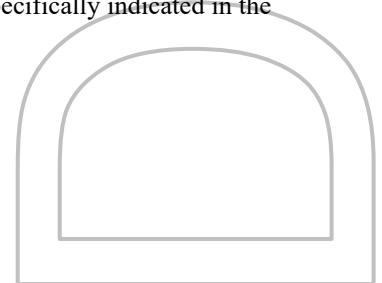
The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

**ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

**§ 2.1** The date of commencement of the Work shall be:  
*(Check one of the following boxes.)*

The date of this Agreement.

A date set forth in a notice to proceed issued by the Owner.





[ ] Established as follows:  
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 2.2 The Contract Time shall be measured from the date of commencement.

**§ 2.3 Substantial Completion**

§ 2.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:  
(Check the appropriate box and complete the necessary information.)

[ ] Not later than [ ] ( [ ] ) calendar days from the date of commencement of the Work.

[ ] By the following date:

§ 2.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 2.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 2.3, liquidated damages, if any, shall be assessed as set forth in Section 3.5.

**ARTICLE 3 CONTRACT SUM**

§ 3.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:  
(Check the appropriate box.)

[ ] Stipulated Sum, in accordance with Section 3.2 below

[ ] Cost of the Work plus the Contractor's Fee, in accordance with Section 3.3 below

[ ] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 3.4 below

(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)

§ 3.2 The Stipulated Sum shall be [ ] (\$ [ ] ), subject to additions and deductions as provided in the Contract Documents.

§ 3.2.1 The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:  
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

[ ]

§ 3.2.2 Unit prices, if any:  
(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 3.2.3 Allowances, if any, included in the stipulated sum:  
*(Identify each allowance.)*

Item	Price

**§ 3.3 Cost of the Work Plus Contractor's Fee**

§ 3.3.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.3.2 The Contractor's Fee:

*(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)*

**§ 3.4 Cost of the Work Plus Contractor's Fee With a Guaranteed Maximum Price**

§ 3.4.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.4.2 The Contractor's Fee:

*(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)*

**§ 3.4.3 Guaranteed Maximum Price**

§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed (\$ ) , subject to additions and deductions by changes in the Work as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

*(Insert specific provisions if the Contractor is to participate in any savings.)*

§ 3.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

*(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)*

§ 3.4.3.3 Unit Prices, if any:

*(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)*

Item	Units and Limitations	Price per Unit (\$0.00)

§ 3.4.3.4 Allowances, if any, included in the Guaranteed Maximum Price:

*(Identify each allowance.)*

Item	Price

§ 3.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:

§ 3.4.3.6 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes or equipment, all of which, if required, shall be incorporated by Change Order.

§ 3.4.3.7 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 3.4.3.5. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 3.4.3.5 and the revised Contract Documents.

§ 3.5 Liquidated damages, if any:

*(Insert terms and conditions for liquidated damages, if any.)*

**ARTICLE 4 PAYMENT**

**§ 4.1 Progress Payments**

§ 4.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 4.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the  day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the  day of the  month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than  (  ) days after the Architect receives the Application for Payment.

*(Federal, state or local laws may require payment within a certain period of time.)*

§ 4.1.4 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold retainage from the payment otherwise due as follows:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment and any terms for reduction of retainage during the course of the Work. The amount of retainage may be limited by governing law.)*

§ 4.1.5 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

*(Insert rate of interest agreed upon, if any.)*

%

**§ 4.2 Final Payment**

§ 4.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;

- .2 the Contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a Guaranteed Maximum Price; and
- .3 a final Certificate for Payment has been issued by the Architect in accordance with Section 15.7.1.

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

**ARTICLE 5 DISPUTE RESOLUTION**

**§ 5.1 Binding Dispute Resolution**

For any claim subject to, but not resolved by, mediation pursuant to Section 21.5, the method of binding dispute resolution shall be as follows:

*(Check the appropriate box.)*

- Arbitration pursuant to Section 21.6 of this Agreement
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.

**ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS**

§ 6.1 The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 6.1.1 The Agreement is this executed AIA Document A104™–2017, Standard Abbreviated Form of Agreement Between Owner and Contractor.

§ 6.1.2 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

*(Insert the date of the E203–2013 incorporated into this Agreement.)*

§ 6.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 6.1.4 The Specifications:

*(Either list the Specifications here or refer to an exhibit attached to this Agreement.)*

Section	Title	Date	Pages

§ 6.1.5 The Drawings:

*(Either list the Drawings here or refer to an exhibit attached to this Agreement.)*

Number	Title	Date

§ 6.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are enumerated in this Article 6.

§ 6.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 Other Exhibits:  
(Check all boxes that apply.)

Exhibit A, Determination of the Cost of the Work.

AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:  
(Insert the date of the E204-2017 incorporated into this Agreement.)

The Sustainability Plan:

Title	Date	Pages

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.2 Other documents, if any, listed below:  
(List here any additional documents that are intended to form part of the Contract Documents.)

## ARTICLE 7 GENERAL PROVISIONS

### § 7.1 The Contract Documents

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

### § 7.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

### § 7.3 The Work

The term “Work” means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work may constitute the whole or a part of the Project.

### § 7.4 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect’s consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

### § 7.5 Ownership and use of Drawings, Specifications and Other Instruments of Service

**§ 7.5.1** The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

**§ 7.5.2** The Contractor, Subcontractors, Sub-subcontractors and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to the protocols established pursuant to Sections 7.6 and 7.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

### § 7.6 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

### § 7.7 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party’s sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

### § 7.8 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties’ intentions and purposes in executing the Contract.

### § 7.9 Notice

**§ 7.9.1** Except as otherwise provided in Section 7.9.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering Notice in electronic format such as name, title and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

**§ 7.9.2** Notice of Claims shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

### **§ 7.10 Relationship of the Parties**

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

## **ARTICLE 8 OWNER**

### **§ 8.1 Information and Services Required of the Owner**

**§ 8.1.1** Prior to commencement of the Work, at the written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 8.1.1, the Contract Time shall be extended appropriately.

**§ 8.1.2** The Owner shall furnish all necessary surveys and a legal description of the site.

**§ 8.1.3** The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

**§ 8.1.4** Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

### **§ 8.2 Owner's Right to Stop the Work**

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, or repeatedly fails to carry out the Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order is eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

### **§ 8.3 Owner's Right to Carry Out the Work**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 21.

## **ARTICLE 9 CONTRACTOR**

### **§ 9.1 Review of Contract Documents and Field Conditions by Contractor**

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

**§ 9.1.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents.

**§ 9.1.3** The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

## **§ 9.2 Supervision and Construction Procedures**

**§ 9.2.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

**§ 9.2.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

## **§ 9.3 Labor and Materials**

**§ 9.3.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**§ 9.3.2** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

**§ 9.3.3** The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification.

## **§ 9.4 Warranty**

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear under normal usage. All other warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 15.6.3.

## **§ 9.5 Taxes**

The Contractor shall pay sales, consumer, use, and other similar taxes that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

## **§ 9.6 Permits, Fees, Notices, and Compliance with Laws**

**§ 9.6.1** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as other permits, fees, licenses, and inspections by government agencies necessary for proper



execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

**§ 9.6.2** The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

### **§ 9.7 Allowances**

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Contractor's costs for unloading and handling at the site, labor, installation, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowance.

### **§ 9.8 Contractor's Construction Schedules**

**§ 9.8.1** The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

**§ 9.8.2** The Contractor shall perform the Work in general accordance with the most recent schedule submitted to the Owner and Architect.

### **§ 9.9 Submittals**

**§ 9.9.1** The Contractor shall review for compliance with the Contract Documents and submit to the Architect Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements, and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Work shall be in accordance with approved submittals.

**§ 9.9.2** Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

**§ 9.9.3** The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents or unless the Contractor needs to provide such services in order to carry out the Contractor's own responsibilities. If professional design services or certifications by a design professional are specifically required, the Owner and the Architect will specify the performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. If no criteria are specified, the design shall comply with applicable codes and ordinances. Each Party shall be entitled to rely upon the information provided by the other Party. The Architect will review and approve or take other appropriate action on submittals for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. The Architect's review of Shop Drawings, Product Data, Samples, and similar submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. In performing such review, the Architect will approve, or take other appropriate action upon, the Contractor's Shop Drawings, Product Data, Samples, and similar submittals.

### **§ 9.10 Use of Site**

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### **§ 9.11 Cutting and Patching**

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

### **§ 9.12 Cleaning Up**

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus material from and about the Project.

### **§ 9.13 Access to Work**

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

### **§ 9.14 Royalties, Patents and Copyrights**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

### **§ 9.15 Indemnification**

**§ 9.15.1** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 9.15.1.

**§ 9.15.2** In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

## **ARTICLE 10 ARCHITECT**

**§ 10.1** The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

**§ 10.2** Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

**§ 10.3** The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.4 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 10.5 Based on the Architect's evaluations of the Work and of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 10.6 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

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

§ 10.8 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes, and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

§ 10.9 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

## ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site.

§ 11.2 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

## ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 12.2 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's activities with theirs as required by the Contract Documents.

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a Separate Contractor because of delays, improperly timed activities, or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work, or defective construction of a Separate Contractor.

#### **ARTICLE 13 CHANGES IN THE WORK**

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor, and Architect, or by written Construction Change Directive signed by the Owner and Architect. Upon issuance of the Change Order or Construction Change Directive, the Contractor shall proceed promptly with such changes in the Work, unless otherwise provided in the Change Order or Construction Change Directive.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and reasonable overhead and profit, unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order.

§ 13.3 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

#### **ARTICLE 14 TIME**

§ 14.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing this Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 14.2 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 14.3 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 14.4 The date of Substantial Completion is the date certified by the Architect in accordance with Section 15.6.3.

§ 14.5 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) changes ordered in the Work; (2) by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control; or (3) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine, subject to the provisions of Article 21.

## **ARTICLE 15 PAYMENTS AND COMPLETION**

### **§ 15.1 Schedule of Values**

**§ 15.1.1** Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price pursuant to Section 3.2 or 3.4, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Stipulated Sum or Guaranteed Maximum Price to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy required by the Architect. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

**§ 15.1.2** The allocation of the Stipulated Sum or Guaranteed Maximum Price under this Section 15.1 shall not constitute a separate stipulated sum or guaranteed maximum price for each individual line item in the schedule of values.

### **§ 15.2 Control Estimate**

**§ 15.2.1** Where the Contract Sum is the Cost of the Work, plus the Contractor's Fee without a Guaranteed Maximum Price pursuant to Section 3.3, the Contractor shall prepare and submit to the Owner a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the estimated Cost of the Work plus the Contractor's Fee.

**§ 15.2.2** The Control Estimate shall include:

- .1** the documents enumerated in Article 6, including all Modifications thereto;
- .2** a list of the assumptions made by the Contractor in the preparation of the Control Estimate to supplement the information provided by the Owner and contained in the Contract Documents;
- .3** a statement of the estimated Cost of the Work organized by trade categories or systems and the Contractor's Fee;
- .4** a project schedule upon which the Control Estimate is based, indicating proposed Subcontractors, activity sequences and durations, milestone dates for receipt and approval of pertinent information, schedule of shop drawings and samples, procurement and delivery of materials or equipment the Owner's occupancy requirements, and the date of Substantial Completion; and
- .5** a list of any contingency amounts included in the Control Estimate for further development of design and construction.

**§ 15.2.3** When the Control Estimate is acceptable to the Owner and Architect, the Owner shall acknowledge it in writing. The Owner's acceptance of the Control Estimate does not imply that the Control Estimate constitutes a Guaranteed Maximum Price.

**§ 15.2.4** The Contractor shall develop and implement a detailed system of cost control that will provide the Owner and Architect with timely information as to the anticipated total Cost of the Work. The cost control system shall compare the Control Estimate with the actual cost for activities in progress and estimates for uncompleted tasks and proposed changes. This information shall be reported to the Owner, in writing, no later than the Contractor's first Application for Payment and shall be revised and submitted with each Application for Payment.

**§ 15.2.5** The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in the Control Estimate. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the Control Estimate and the revised Contract Documents.

### **§ 15.3 Applications for Payment**

**§ 15.3.1** At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 15.1, for completed portions of the Work. The application shall be notarized, if required; be supported by all data substantiating the Contractor's right to payment that the Owner or Architect require; shall reflect retainage if provided for in the Contract Documents; and include any revised cost control information required by Section 15.2.4. Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

**§ 15.3.2** With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

**§ 15.3.3** Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

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

#### **§ 15.4 Certificates for Payment**

**§ 15.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.4.3.

**§ 15.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluations of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

**§ 15.4.3** The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- .1 defective Work not remedied;
- .2 third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

**§ 15.4.4** When either party disputes the Architect's decision regarding a Certificate for Payment under Section 15.4.3, in whole or in part, that party may submit a Claim in accordance with Article 21.

### **§ 15.5 Progress Payments**

**§ 15.5.1** The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in a similar manner.

**§ 15.5.2** Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor or supplier except as may otherwise be required by law.

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

**§ 15.5.4** Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

### **§ 15.6 Substantial Completion**

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

**§ 15.6.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**§ 15.6.3** Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

**§ 15.6.4** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

### **§ 15.7 Final Completion and Final Payment**

**§ 15.7.1** Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.7.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**§ 15.7.2** Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

**§ 15.7.3** The making of final payment shall constitute a waiver of claims by the Owner except those arising from

- .1 liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

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

## **ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY**

### **§ 16.1 Safety Precautions and Programs**

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury, or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3. The Contractor may make a claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9:15.

### **§ 16.2 Hazardous Materials and Substances**

**§ 16.2.1** The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

**§ 16.2.2** To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.



§ 16.2.3 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

## ARTICLE 17 INSURANCE AND BONDS

### § 17.1 Contractor's Insurance

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than █ (\$ █) each occurrence, █ (\$ █) general aggregate, and █ (\$ █) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 9.15.

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than █ (\$ █) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

§ 17.1.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 17.1.2 and 17.1.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 17.1.5 Workers' Compensation at statutory limits.

§ 17.1.6 Employers' Liability with policy limits not less than █ (\$ █) each accident, █ (\$ █) each employee, and █ (\$ █) policy limit.

§ 17.1.7 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than █ (\$ █) per claim and █ (\$ █) in the aggregate.

§ 17.1.8 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than █ (\$ █) per claim and █ (\$ █) in the aggregate.

§ 17.1.9 Coverage under Sections 17.1.7 and 17.1.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than █ (\$ █) per claim and █ (\$ █) in the aggregate.

§ 17.1.10 The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Section 17.1 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations,

shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the period required by Section 17.1.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy.

**§ 17.1.11** The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

**§ 17.1.12** To the fullest extent permitted by law, the Contractor shall cause the commercial liability coverage required by this Section 17.1 to include (1) the Owner, the Architect, and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's Consultants, CG 20 32 07 04.

**§ 17.1.13** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.1, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

**§ 17.1.14 Other Insurance Provided by the Contractor**

*(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)*

Coverage	Limits

**§ 17.2 Owner's Insurance**

**§ 17.2.1 Owner's Liability Insurance**

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

**§ 17.2.2 Property Insurance**

**§ 17.2.2.1** The Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed or materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section 17.2.2.2, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

**§ 17.2.2.2** Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section 17.2.2.1 or, if necessary, replace the insurance policy required under Section 17.2.2.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 18.4.

**§ 17.2.2.3** If the insurance required by this Section 17.2.2 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

**§ 17.2.2.4** If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 18.4, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against

direct physical loss or damage, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

**§ 17.2.2.5** Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Section 17.2.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by this Section 17.2.2. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

**§ 17.2.2.6** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.2.2, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

**§ 17.2.2.7 Waiver of Subrogation**

**§ 17.2.2.7.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by this Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 17.2.2.7 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

**§ 17.2.2.7.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 17.2.2.7.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

**§ 17.2.2.8** A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements, written where legally required for validity, the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

**§ 17.2.3 Other Insurance Provided by the Owner**

*(List below any other insurance coverage to be provided by the Owner and any applicable limits.)*

Coverage	Limits

**§ 17.3 Performance Bond and Payment Bond**

**§ 17.3.1** The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Contract Documents on the date of execution of the Contract.

§ 17.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

## ARTICLE 18 CORRECTION OF WORK

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, unless compensable under Section A.1.7.3 in Exhibit A, Determination of the Cost of the Work.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

§ 18.4 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

## ARTICLE 19 MISCELLANEOUS PROVISIONS

### § 19.1 Assignment of Contract

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

### § 19.2 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.6.

### § 19.3 Tests and Inspections

Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

### § 19.4 The Owner's representative:

*(Name, address, email address and other information)*

§ 19.5 The Contractor's representative:  
(Name, address, email address and other information)

§ 19.6 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

## ARTICLE 20 TERMINATION OF THE CONTRACT

### § 20.1 Termination by the Contractor

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

### § 20.2 Termination by the Owner for Cause

§ 20.2.1 The Owner may terminate the Contract if the Contractor

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

§ 20.2.2 When any of the reasons described in Section 20.2.1 exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor seven days' notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 20.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

### § 20.3 Termination by the Owner for Convenience

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Owner shall pay the Contractor for Work executed; and costs incurred by reason of such termination, including costs attributable to termination of Subcontracts; and a termination fee, if any, as follows:

*(Insert the amount of or method for determining the fee payable to the Contractor by the Owner following a termination for the Owner's convenience, if any.)*

## ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.11 and Sections 15.7.3 and 15.7.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution.

### § 21.2 Notice of Claims

§ 21.2.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the Architect within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 21.2.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the other party.

### § 21.3 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action against the other and arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in this Agreement whether in contract, tort, breach of warranty, or otherwise, within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 21.3.

§ 21.4 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 21.5 The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with their Construction Industry Mediation Procedures in effect on the date of this Agreement. A request for mediation shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 21.6 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association, in accordance with the Construction Industry Arbitration Rules in effect on the date of this Agreement. Demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 21.7 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation;

(2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 21.8 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, any party to an arbitration may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described in the written Consent.

§ 21.9 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

**§ 21.10 Continuing Contract Performance**

Pending final resolution of a Claim, except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**§ 21.11 Waiver of Claims for Consequential Damages**

The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.11 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
**OWNER** (Signature)

\_\_\_\_\_  
(Printed name and title)

\_\_\_\_\_  
**CONTRACTOR** (Signature)

\_\_\_\_\_  
(Printed name and title)





-----LABORERS-----

4) Group 1: General laborers, carpenter tenders, concrete specialists, wrecking laborers and fire watchers.	33.5	25.59
4) Group 1a: Acetylene Burners (Hours worked with a torch)	34.5	25.59
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	33.75	25.59
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	34.0	25.59
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	34.5	25.59
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	34.25	25.59
4e) Group 6: Blasters, nuclear and toxic waste removal.	36.5	25.59
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	36.5	25.59
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	31.78	25.59
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	31.24	25.59
4i) Group 10: Traffic Control Signalman	20.1	25.59

**As of:** February 12, 2024

4j) Group 11: Toxic Waste Removers A or B With PPE	36.5	25.59
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	37.61	27.61
5a) Millwrights	40.56	28.87
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	43.75	32.47+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	64.01	37.885+a+b
-----LINE CONSTRUCTION-----		
Groundman	26.5	6.5% + 9.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
8) Glazier (Trade License required: FG-1,2)	41.18	24.55 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	42.37	40.02 + a
-----OPERATORS-----		
Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	52.78	27.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	48.37	27.80 + a

**As of:** February 12, 2024

Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	52.41	27.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	51.51	27.80 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	48.0	27.80 + a
Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Finegrade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	47.1	27.80 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	46.64	27.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Spreader, Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24 mandrel).	45.92	27.80 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	45.92	27.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	45.55	27.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under mandrel).	45.14	27.80 + a
Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	44.67	27.80 + a
Group 9: Front End Loader (under 3 cubic yards); Skid Steer Loader regardless of attachments; (Bobcat or Similar); Forklift, Power Chipper; Landscape Equipment (including Hydroseeder); Vacuum Excavation	44.14	27.80 + a

**As of:** February 12, 2024

Truck and Hydrovac Excavation Truck (27 HG pressure or greater).

Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc. 41.69 27.80 + a

Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment. 41.69 27.80 + a

Group 12: Wellpoint Operator. 41.61 27.80 + a

Group 13: Compressor Battery Operator. 40.92 27.80 + a

Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain). 39.54 27.80 + a

Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator. 39.06 27.80 + a

Group 16: Maintenance Engineer. 38.28 27.80 + a

Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator; Portable Grout Plant Operator; Portable Water Filtration Plant Operator. 43.46 27.80 + a

Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman. 40.54 27.80 + a

-----PAINTERS (Including Drywall Finishing)-----

10a) Brush and Roller 37.62 24.55

10b) Taping Only/Drywall Finishing 38.37 24.55

**As of:** February 12, 2024

10c) Paperhanger and Red Label	38.12	24.55
10e) Blast and Spray	40.62	24.55
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	48.28	35.50
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
13) Roofer (composition)	41.8	22.65
14) Roofer (slate & tile)	42.3	22.65
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	41.89	43.22
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	48.28	35.50
-----TRUCK DRIVERS-----		
17a) 2 Axle, Helpers	32.16	30.51 + a
17b) 3 Axle, 2 Axle Ready Mix	32.27	30.51 + a
17c) 3 Axle Ready Mix	32.33	30.51 + a
17d) 4 Axle	32.39	30.51 + a
17e) 4 Axle Ready Mix	32.44	30.51 + a

**As of:** February 12, 2024

17f) Heavy Duty Trailer (40 Tons and Over)	34.66	30.51 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	32.44	30.51 + a
17h) Heavy Duty Trailer up to 40 tons	33.39	30.51 + a
17i) Snorkle Truck	32.54	30.51 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	47.55	32.27 + a
19) Theatrical Stage Journeyman	25.76	7.34

*Welders: Rate for craft to which welding is incidental.*

*\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

*\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate*

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page:*

*www.ct.gov/dol. For those without internet access, please contact the division listed below.*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

**~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).**

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**As of:** February 12, 2024

**As of:** February 12, 2024



# EAST HARTFORD PUBLIC SCHOOLS | 2023-2024 CALENDAR

**DAYS: 0**

- 4** Independence Day: Schools and District offices closed

JULY 2023						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JANUARY 2024						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**DAYS: 21**

- 1** New Year's Day: Schools and District offices closed
- 15** Dr. Martin Luther King, Jr. Day: Schools and District offices closed
- 16-22** High School Exams: early dismissal Gr. 9-12
- 22** BOE Meeting

**DAYS: 2**

- 21** Ten-month secretaries return to work
- 22-24** New Teacher Orientation
- 28** Convocation & PD (Teachers and Paras)
- 28** BOE Meeting
- 29** Professional Development (Teachers and Paras)
- 30** **FIRST DAY OF SCHOOL**
- 30-31** Professional Development: early dismissal Pre-K-12 and ECLC home visits

AUGUST 2023						
S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY 2024						
S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

**DAYS: 19**

- 12** BOE Meeting
- 16** Professional Development: early dismissal Pre-K-12
- 19** Presidents' Day: Schools and District offices closed
- 20** Professional Development (teachers): schools closed

**DAYS: 20**

- 1** Professional Development: early dismissal Pre-K-12 and ECLC home visits
- 4** Labor Day: Schools and District offices closed
- 18** BOE Meeting
- 21** Professional Development: early dismissal Pre-K-12

SEPTEMBER 2023						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

MARCH 2024						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

**DAYS: 20**

- 11** BOE Meeting
- 11** Professional Development: early dismissal Pre-K-12
- 12-15** Pre-K and Elementary Parent Conferences Pre-K-5: early dismissal
- 14** Middle School Parent Conferences Gr. 6-8: early dismissal
- 29** Good Friday: Schools and District offices closed

**DAYS: 20**

- 6** Professional Development (teachers): schools closed
- 9** Indigenous Peoples' Day: Schools and District offices closed
- 10-13** Pre-K, Elementary & Middle School Parent Conferences Pre-K-8: early dismissal
- 16** BOE Meeting

OCTOBER 2023						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL 2024						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

**DAYS: 17**

- 8-12** Spring Recess: Schools closed
- 15** BOE Meeting
- 25** Professional Development: early dismissal Pre-K-12

**DAYS: 18**

- 7** Election Day/Professional Development (teachers) schools closed
- 10** Veterans Day: Schools and District offices closed
- 13** BOE Meeting
- 22** Early Dismissal Pre-K-12
- 23-24** Thanksgiving Recess: Schools and District offices closed

NOVEMBER 2023						
S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY 2024						
S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

**DAYS: 22**

- 13** BOE Meeting
- 24** Professional Development: early dismissal Pre-K-12
- 27** Memorial Day: Schools and District offices closed

**DAYS: 16**

- 18** BOE Meeting
- 22** Early Dismissal Pre-K-12
- 25-1** Holiday Recess: schools closed
- 25/26** Observance of Christmas Eve and Christmas: Schools and District offices closed

DECEMBER 2023						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE 2024						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

**DAYS: 5**

- 3-7** High School Exams: early dismissal Gr. 9-12
- 3-6** Early Dismissal ECLC – home visits
- 7** Projected **last day of school** (180<sup>th</sup> day): early dismissal Pre- K-12
- 10** BOE Meeting
- 28** Ten-month secretaries last day



## **SCHEDULE OF DRAWINGS**

### **ROOF REPLACEMENT ROBERT J. O'BRIEN ELEMENTARY SCHOOL**

	Title Sheet
S-1	Site Plan
D-1	Demolition Plan
A-1	Roof Plan
A-2	Roof Details – Base Bid
A-3	Roof Details – Base Bid
A-4	Roof Details – Base Bid
A-5	Roof Details – Base Bid
A-6	Roof Details – Add Alternate #1
A-7	Roof Details – Add Alternate #1
A-8	Roof Details – Add Alternate #1
A-9	Roof Details – Add Alternate #1
A-10	Ladder & Guardrail Details
A-11	Ladder Details

SECTION 01 10 00  
GENERAL REQUIREMENTS

1.1 GENERAL SCOPE:

- A. The General Conditions, Supplementary General Conditions, Supplementary Instructions to Bidders, and all other parts set forth in Part 1 of the Specifications is hereby made a part hereof unless specifically accepted.

1.2 QUALIFICATIONS:

- A. The Contractor shall have been regularly engaged in construction and the installation and fabrication of the type work set forth in the Contract Documents for a period of not less than five (5) years prior to the Bid date set forth in the Contract Documents.
- B. The Contractor shall have adequate Plant & Equipment facilities for the proper performance of the work set forth in the Contract Documents, and all such Plant & Equipment facilities shall be subject to the approval of the Owner.
- C. The Owner shall be the sole judge and shall have the final privilege to approve or disapprove the qualifications of the Contractor, and to approve or disapprove his Plant & Equipment facilities available to perform the work required by the Contract Documents.

1.3 EXAMINATION OF SITE:

- A. The Contractor is required to attend the Pre-Bid meeting and to fully acquaint himself with the Site and with the existing conditions, so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the Contract. The failure of the Contractor to visit the Site and acquaint himself with the conditions there existing in connection with the existing Site conditions, shall in no way relieve the Contractor from any obligations with respect to the work included in the Contract. The submission of a Bid by the Contractor shall be taken as prima facie evidence of compliance with this Section.
- B. The Contractor shall include in his Bid, all costs for the full completion of all work under the Contract as indicated on the Drawings and specified in the Specifications, including all items of work required and necessary due to existing conditions encountered in-the-field during the process of performing the work; all costs in connection with encountered existing conditions shall be performed by the Contractor at no additional cost to the Owner.

1.4 INSPECTIONS:

- A. The Contractor shall be responsible for the proper inspection of his work during its installation by his workmen, his sub-contractors, all lawful authorities, other workmen which may be engaged by the Owner, and the Contractor shall obtain and pay for all necessary permits, fees, and other requirements.
- B. The Contractor shall comply with all laws relative to persons employed by him or his sub-contractors.

1.5 INTENT:

- A. It is the intention of the Drawings and Specifications that all work shall be fully completed, tested, and placed into final operation for the use intended. All materials, equipment, apparatus, appliance workmanship, etc., shall be new and of first-class quality.
- B. Any apparatus, appliance, material, or work not indicated on the drawings but mentioned in the Specifications, or vice versa, or all miscellaneous materials and workmanship not indicated on the Drawings or mentioned in the Specifications but necessary and required by the Owner to make the work complete and finished in all respects and made ready for use intended by the Owner, even if not particularly specified in the Drawings and Specifications, shall be provided by the Contractor without additional cost to the Owner.

1.6 APPROVAL OF MATERIALS:

- A. The materials, workmanship, design, and arrangement of all work installed under the Contract shall be subject to the approval of the Architect.
- B. Within twenty one (21) days after the Notice to Proceed with the work has been issued to the Contractor and prior to the submission of any shop drawings for approval, the Contractor shall submit to the Architect for approval, a complete list of Manufacturers of all equipment and materials proposed for use in the work. No approvals will be rendered by the Architect on any shop drawing submitted before the complete "List of Manufactures" is approved. Any item of equipment or materials not submitted for approval on the "List of Manufacturers" within the twenty one (21) day period will not be approved unless it shall be of the exact make and characteristic specified in the Contract Documents.

1.7 SHOP DRAWINGS:

- A. Prior to delivery to the job site, but sufficiently in advance of requirements necessary to allow the Architect ample time for review, the Contractor shall submit for review six (6) copies each of shop drawings of all equipment, materials, tapered insulation, piping, wiring, hardware, fixtures, equipment, etc., and further shall obtain review approval for same from the Architect before installing any of the same in the work of the Project.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. The review shall be only for general conformance with the design concept and general Compliance with the information given in the Contract Documents. It shall not include review of quantities, dimensions, weights or gauges, fabrication processes, construction methods, etc., all of which shall be the sole responsibility of the Contractor. The Contractor shall not be relieved from furnishing materials or work as may be required for the completion of all items of work intended by the Owner.
- C. Prior to submission of shop drawings, the Contractor shall thoroughly check each shop drawing and shall reject those not conforming to the Contract Documents, and he shall indicate by his signature thereon that the shop drawings submitted in his opinion meet the full requirements of the Contract Documents. The requirements herein for shop drawings shall be in addition to the requirements set forth in the General Conditions.

#### 1.8 SHUTDOWNS:

- A. The temporary shutdown by the Contractor of the existing systems, construction, equipment, etc., shall be performed at such time as shall be agreed to by the Owner.
- B. The Owner shall be notified of estimated duration of the shutdown period at least ten (10) days in advance of the date the work is to be performed. The maximum duration of any shut down shall not exceed two (2) hours.
- C. Work shall be arranged for continuous performance, including overtime periods if so required, to assure that existing operating services, equipment, passageways, construction, etc., shall be shut down only during the time actually required to make necessary connections.

#### 1.9 RENOVATION WORK:

- A. The Contractor shall disconnect, remove, relocate, replace, reconnect, rebuild, reconstruct, etc., all encountered existing equipment, materials, piping, wiring, electrical systems, heating systems, plumbing systems, boilers, valves, tanks, pumps, foundation walls and/or footings, piers, walls, and all other items of existing construction, including all site improvements such as lawns, curbs, walks, etc., encountered during the performance of the work under the Contract.
- B. The Contractor shall construct, build, re-construct, rebuild, and restore and replace to its original condition or with new and/or existing similar materials, all items of surface and subsurface construction which has been interrupted, changed, or altered in any way by and during the performance of the work under the Contract.

#### 1.10 WORK SCHEDULE:

- A. The Contractor shall submit a Work Schedule for approval by the Owner which shall set forth the date and time for each area and/or phase of site work, the commencement of any work under the contract. The Contractor shall schedule his work so that the installation of new work shall be fully completed as soon as possible. The Contractor shall prepare the Work Schedule in accordance with the limits of Contract Time set forth in the Contract Documents.
- B. The Contractor shall schedule his work in a manner to provide not less than three (3) days written notice to East Hartford Board of Education and Hibbard & Rosa Architects. L.L.C. prior to the performance of work under the contract. The Contractor shall take precautions to ensure all walkways and entrances/exits remain clear and unobstructed for use by the occupants. The Contractor shall conform to the Work Schedule approved by the Owner.

#### 1.11 OCCUPANCY OF BUILDING:

- A. Attention is directed to the fact that the Buildings on the site will be continuously occupied throughout the period required for the Contractor to perform the work set forth in the Contract Documents. The Contractor shall limit the hours of work from 7:00 AM to 3:30 PM local time Monday thru Friday, no holidays.
- B. Work required outside of normal hours will require an East Hartford Facility employee to be present and the contractor will pay for all payroll related expenses for the duration of the time worked.
- C. The Contractor shall perform his work in a manner, form, schedule, and sequence, so that the normal occupancy of the Buildings on the site shall be maintained in continuous operation without causing any undue inconvenience or interruption to the safety, use, and function of the Buildings by the occupants.

#### 1.12 CODES AND REGULATIONS:

- A. The Contractor shall comply with all codes and regulations of the local Municipality, the State of Connecticut, all Utility Companies, Telephone Company, Cable Company and all other governing Agencies having jurisdiction over the project.
- B. The Contractor shall, prior to the acceptance of all work by the Owner, furnish written proof of the acceptance of all work by the local Municipality, the Utility Companies, the State of Connecticut, East Hartford Board of Education and all other governing Agencies having jurisdiction over the Project.
- C. The Contractor shall pay for all fees in connection with the installation of the work and he shall pay for all fees charged by the local Municipality, by Utility Companies, and all other governing Agencies having jurisdiction over the Project.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 1.13 EXISTING IMPROVEMENTS:

- A. Maintain in operating condition, all active utilities, driveways, streets, parking areas, sidewalks, lighting systems, electric services, plumbing systems, heating systems, telephone systems, cable systems, fire alarm systems, and all other active utilities and improvements.
- B. The Contractor shall make interruptions to the existing systems only when necessary and shall maintain interruptions to the existing systems to an absolute minimum and only upon approval by the owner, and he shall provide the Owner with complete information as to the time, location, sequence and length of each system interruption. Unless otherwise permitted by the owner, the Contractor shall maintain continuous service of all existing and new system or systems at all times to all adjacent tenant occupied buildings and areas.
- C. Maintain vehicular traffic through streets as per local Municipality requirements; do not completely block passage of vehicles and maintain at all times open traffic lanes for access by all types of vehicular traffic. Provide temporary barricades, enclosures, separators, signs, etc., as may be required for streets, sidewalks, vehicles, pedestrians, and other type traffic. The Contractor shall comply with all rules, regulations, and laws governing the work and for the continued customary use of the Buildings and all areas of the Project Site.

### 1.14 SAMPLES:

- A. When so requested by the Owner and prior to commencement of work under the Contract, the Contractor shall submit samples for review and approval by the Owner. The Contractor shall deliver the samples to the office of the Owner or to such other location stipulated by the Owner, and the samples shall be complete with not less than three (3) copies of the Manufacturer's literature, printed data, etc.
- B. The Owner shall be the sole judge and shall have the final privilege to approve, disapprove, or reject samples submitted by the Contractor.
- C. The Contractor shall furnish affidavits certifying that materials used in the Project comply with the Specifications. Affidavits shall be in the form and manner approved by the Architect; submitted in duplicate, properly executed, signed as required for each item of material used in the performance of the Contract.

### 1.15 SLEEVES, ETC.:

- A. The Contractor shall provide and shall be held responsible for the location of and maintaining in proper position, all sleeves, inserts, anchor bolts, openings, holes, etc., required for the work.
- B. All sleeves shall have an internal diameter of one (1) inch larger than the outside diameter of the pipe, conduit, raceway, duct, etc., passing through the construction.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- C. Sleeves through outside exposed to the weather construction shall be of Schedule 40 galvanized steel pipe. Sleeves through interior partitions of non-masonry construction shall be of not less than No. 22 gauge galvanized sheet steel. All sleeves shall be set flush with the finished surfaces of floors, roofs, walls, partitions, etc.
- D. The space between the sleeve and the pipe (both interior and exterior sleeves) shall be packed with non-staining Ethafoam plastic rope, and shall be surface caulked with a waterproof sealant meeting the approval of the Architect. Provide all sleeves located in exposed to view areas with escutcheon plates.

#### 1.16 ESCUTCHEONS:

- A. Where exposed to view pipes, conduits, sleeves, etc., pass through floors, walls, partitions, ceilings, etc., they shall be fitted with neat, heavy spun or stamped escutcheon plates firmly secured to the pipes, conduits, etc. All escutcheon plates shall be of sufficient outside diameter to amply cover the sleeve openings. All escutcheon plates shall be non-ferrous metal and shall be chrome plated.

#### 1.17 SCAFFOLDING, RIGGING, HOISTING EQUIPMENT, ETC.:

- A. The Contractor shall provide and remove when no longer necessary, all scaffolding, rigging, hoisting equipment, temporary coverings, and other service necessary for the performance of all work under the Contract.
- B. Install and remove all temporary coverings and leave all existing construction neat, clean, and free of all debris.

#### 1.18 CLEANING, REMOVAL OF DEBRIS:

- A. The Contractor shall periodically or as directed during the progress of the work, remove and properly dispose of all debris, and shall keep the premises clean and clear of all obstructions. At the end of each day the site shall be cleaned and left in a neat and orderly condition. Upon completion of the work, he shall remove all temporary construction, facilities and materials, and shall leave the Building and the Project Site in a neat and clean condition.
- B. All debris due to removal and installation of new work shall be removed and loaded into dumpsters. All full dumpsters shall be removed by the Contractor from the site by the end of each work day. All dumpsters shall be removed by the Contractor from the site at the end of the work week. Dumpsters left overnight will be covered.

#### 1.19 RENOVATIONS TO EXISTING CONSTRUCTION:

- A. All changes, additions, alterations, renovations, deletions, removal, replacements, reconstruction, etc., which are necessary and required for the installation of new work shall be included in the Contract. The items of work throughout the various Divisions of the Contract Documents shall be coordinated under this Division of the work to the extent that all alterations, changes, additions, deletions, reconstruction, replacements, etc., to the existing construction work shall be fully completed for the use intended by the Owner, and all such work shall be performed by the Contractor at no additional cost to the Owner.
- B. The Contractor shall remove, replace, reconstruct, reduce, enlarge, alter, cut, patch, repair, drill, and cover, etc., all existing items of work. Include all site improvements, general construction, mechanical construction, electrical work, heating and ventilating work, plumbing systems, fire alarm systems, telephone systems, cable systems etc., which have been damaged or disturbed by and during the performance of the work under the Contract, and all of which shall be restore to their original condition and use by the Contractor at no additional cost to the Contract.
- C. Exercise proper care in the removal of existing construction so that structural stability of the existing construction will not be impaired; protect existing construction from damage and take all necessary precautions to avoid undue damage to all finishes.
- D. All existing construction shall be patched, adjusted and repaired using similar materials to match the original condition and construction insofar as possible. Patch and repair walls, floors, roofs, ceilings, concrete and brick work, and all other existing finishes and construction.
- E. All penetrations through floors, ceilings, walls, etc., shall be properly sealed (and fire rated where required) with proper non-combustible sealant materials.

#### 1.20 CO-ORDINATION OF WORK WITH OTHERS:

- A. Attention is directed to the fact that the Owner may award a separate Contract or Contracts for various items of work throughout the Project.
- B. The Contractor shall coordinate his work with the Contractors or Contractor engaged by the Owner so that each and all Contractors performing work for the Owner shall share equally in the advantages and disadvantages of performing the work under their various Contracts.
- C. Each Contractor shall notify and shall coordinate all items of work with each other individual Contractor. Coordinate temporary interruptions to the heating system, shutdowns, temporary connections and services, removal and replacements of existing work, installation of new work, and all other items for work, so that the combined effort of all Contractors or Contractor will produce the full completion of the Owner intended work set forth under the Contract.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



1.21 MISCELLANEOUS CUTTING, PATCHING, ETC.:

- A. The Contractor shall perform all items of concrete work, masonry work, carpentry work, excavating and backfilling work, mechanical work, electrical work, and all other type construction due to the installation of work under the Contract.
- B. During the performance of miscellaneous cutting, patching etc., the Contractor shall maintain all operational heating and plumbing lines, electrical lines, service lines, and all other necessary services in operating condition during the performance of work required by the Contract. The Contractor shall maintain all required services to each occupied area, so that all areas shall be habitable and can be occupied for normal customary use by the occupants. Provide all temporary connections, construction, supports, etc. required, and all such work shall be completely removed when no longer required.

1.22 INTERPRETATION OF DRAWINGS & SPECIFICATIONS:

- A. Any questions or disagreements arising as to the true intent of this specification or the Drawings, or the kind and quality of work required thereby, shall be decided by the Architect, whose interpretations thereof shall be final, conclusive, and binding on all parties.
- B. In the case of any discrepancies between Drawings and Specifications, or within either document itself, the better quality, greater quantity or more costly work shall be included in the Contract Price, and shall be furnished and installed in the performance of the required work.
- C. In the case of any discrepancies between Part 1 and part 2 of the Specification Manual, the requirements as specified in Part 2 of the Specification Manual shall prevail.

1.23 APPROVAL:

- A. The materials, workmanship, design and arrangement of all work installed under the Contract shall be subject to the approval of the Architect. If material or equipment is installed before it is approved, the Contractor shall be liable for the removal and replacement, at no extra cost to the Owner, if, in the opinion of the Architect, the material or equipment does not meet the intent of the Drawings and Specifications.

1.24 SUBSTITUTIONS:

- A. Substitutions of equipment or materials other than those indicated on the Drawings or in the Specifications, shall be confined to only those manufacturer's listed, or those otherwise indicated, and may be made only upon written approval from the Architect.

- B. The Contractor shall submit his substitution for approval before releasing order for fabrication and/or shipment. Submittal will be forwarded with a letter of transmittal or cover letter listing all items for approval. The Architect reserves the right to disapprove such substitution, provided, in his opinion, the item offered is not equal to the item specified.
- C. Where a Contractor proposes to use an item of material or equipment other than that specified or detailed on Drawings, and which requires any redesign of the roof and/or structure, or architectural lay-out, all such redesign and all new drawings and details required thereof shall, with the approval of the Architect be prepared by the Contractor at his own expense.
- D. Where such approved deviation requires a different quantity and arrangement of material and equipment from that specified or indicated on the drawings, subject to the approval of the Architect, the Contractor shall provide any such material, structural supports, and any other items at no additional cost to the Owner.

1.25 APPROVAL OF INSTALLATION:

- A. The materials, workmanship, design, and arrangement of all work installed under the contract shall be subject to the approval of the Architect. If material or equipment is installed before layout and design of same is approved, the contractor shall be liable for the removal and replacement of all such unapproved work at no extra cost to the Owner.

1.26 ROYALTIES & PATENTS:

- A. The Contractor shall pay all royalties and shall defend all suits or claims for infringement of any patent Windsor rights and shall save the Owner harmless from loss on account thereof.
- B. If the Contractor observes that a process or article specified is an infringement of a patent, he shall promptly notify the Architect in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work. If the Contractor performs any work specified, knowing it is to be an infringement of a patent, he shall bear all costs arising therefrom.

1.27 PROTECTION OF WORK & PROPERTY:

- A. The Contractor shall be responsible for the maintenance and protection of all equipment, materials, and tools, supplied by him and stored or installed on the job site, from loss or damage of all causes, until final acceptance.
- B. The Contractor shall be responsible for the protection of any finished work of other trades from damage or defacement by his operations and must remedy any such injury at his own expense.

1.28 ACCESSIBILITY:

- A. The Contractor shall install all work so that all parts required are easily accessible for inspection, operation, maintenance and repair. Minor deviations from Drawings may be made to accomplish this, but changes of magnitude shall not be made without prior written approval from the Architect.

1.29 TESTS:

- A. All equipment shall be tested as specified under the various sections of the work. Labor, materials, instruments, and power required for testing shall be furnished by the Contractor, unless otherwise indicated under the particular section of the Specifications.
- B. Tests shall be performed in the presence and to the satisfaction of the Architect, and such other parties as may have legal jurisdiction.
- C. All defective work shall be promptly repaired or replaced and the tests shall be repeated until the particular system and component parts thereof receive the approval of the Architect.
- D. Any damages resulting from tests shall be repaired and damaged materials replaced, all to the satisfaction of the Architect.
- E. The duration of tests shall be as determined by all Authorities having jurisdiction, but in no case less than that prescribed in each section of the Specification.
- F. Equipment and systems which normally operate during certain seasons of the year shall be tested during the appropriate season. Tests shall be performed on individual equipment, systems and their controls. Wherever the equipment of systems under test is inter-related with, and depends upon, the operation of other equipment, systems, and controls for proper operation, functioning and performance, the latter shall be operated simultaneously with the equipment or system being tested.
- G. All costs in connection with tests shall be paid for by the Contractor.

1.30 AS-BUILT DRAWINGS:

- A. The Contractor shall keep concurrent with the installation of the progress of the work, an accurate record of the as-built location and condition of all work performed under the Contract. All as-built information shall be recorded on a clean set of Black and White Contract Drawings and shall indicate the final location of all items of work complete with Dimensions, sizes, notations, etc.

- B. Upon completion of all work and prior to Final Acceptance of all work under the Contract, the Contractor shall transfer all as-built information to clean set of Black and White Zerox Contract Documents. Submit all final as built Drawings to the Architect for final approval and acceptance.

1.31 OWNERSHIP OF DRAWINGS & SPECIFICATIONS:

- A. All Drawings, Specifications, and copies thereof furnished by the Architect are his property and they are not to be used on other work, and shall be returned to the Architect at the completion of the work.
- B. On the award of the Contract, the Architect will issue to the Contractor Three (3) stamped and signed copies of the drawings and specifications for permit application. Contractor may acquire additional copies through County Reproductions

1.32 TEMPORARY SERVICES:

- A. Refer to specification section 01 50 00, "Temporary Facilities and Controls" for information on the following items:
  - 1. Temporary Electricity
  - 2. Temporary Lighting
  - 3. Temporary Telephone Service
  - 4. Temporary Water Service
  - 5. Temporary Sanitary Facilities
  - 6. On-site Parking

1.33 GUARANTY:

- A. The Contractor shall guaranty all work performed under the Contract for a period of two (2) years from the date of final acceptance by the Owner of all work under the Contract. Final acceptance will be as set forth in a written notice by the Owner to the Contractor. This Owner will give notice of observed defects to the Contractor with reasonable promptness and the Contractor shall remove, patch, repair, and adjust all defective work immediately in accordance with the terms of the Contract.
- B. The above guaranty shall be in addition to all work guarantees and warranties required under the Contract.

1.34 CONTRACTOR'S PERSONNEL:

- A. Smoking and the consumption of food and beverages throughout the Buildings and on the site shall not be permitted. The consumption of alcoholic beverages shall not be permitted on-site at any time. The use of radios, boom boxes and similar type units shall not be permitted on-site at any time.

END OF SECTION

SECTION 01 22 00  
UNIT PRICES

1.1 SUMMARY:

- A. This section includes: Procedures for Identification and description of Unit Prices for various building components and systems which shall be used to establish cost of change in the scope of the work which may occur.
- B. Related Sections
  - 1. Bidding form: Quotation of the cost of proposed unit prices.
  - 2. Owner-Contractor agreement: Incorporation of unit prices into the Work.
  - 3. Sections of the Specifications listed under the respective unit prices.

1.2 COORDINATION:

- A. Coordinate pertinent related work and modify surrounding work required to properly integrate the work provided by unit prices, and to provide the complete construction required by Contract Documents.

1.3 DESCRIPTION OF UNIT PRICES:

- A. Unit price and rules of measurement as listed in Bid Form shall be used in evaluating additions and deductions to the Contract Price and shall be used for all classifications of the work irrespective of the quantity involved.
- B. The Contractor shall quote his Base Bid Proposal the Unit Prices included in the bid form, which may be as selected by the Owner.

END OF SECTION

SECTION 01 23 00  
ALTERNATES

1.1 SUMMARY:

- A. This section includes: Identification and description of Alternate work
- B. Related Sections
  - 1. Bidding form: Quotation of the cost of proposed alternate.
  - 2. Owner-Contractor agreement: Incorporation of alternate price(s) into the Work.
  - 3. Specification sections identified in each Alternate.

1.2 PROCEDURES:

- A. Alternate(s) will be exercised at the option of the Owner. Acceptance will be designated in the Owner-Contract Agreement.
- B. Coordinate related work and modify surrounding work as required to complete the work. Including changes under each Alternate, when acceptance is designated in the Owner-Contract Agreement

1.3 DESCRIPTION OF ALTERNATES:

A. Add Alternates Summary

1. Add Alternate No. 1

Increase the warranty period of the EPDM membrane roof system from 20 years to 30 years, as depicted on sheets A2, A3, A4 and A5. All other requirements of the EDPM roof systems and requirements shall be remain the same. Roof area of approximately 57,280 sq. ft.

2. Add Alternate No. 2

Delete the installation of the .090 EPDM membrane (20 year warranty) as depicted on sheets A2, A3, A4 and A5 and substitute the two ply modified built-up roof system (20 year warranty) depicted on sheets A-6, A-7, A-8 and A-9 and as specified in specification section 07-55-00. Roof area of approximately 57,280 sq. ft.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

3. Add Alternate No. 3

Delete the installation of the .090 EPDM membrane (20 year warranty) as depicted on sheets A2, A3, A4 and A5 and substitute the two ply modified built-up roof system (30 year warranty) depicted on sheets A-6, A-7, A-8 and A-9 and as specified in specification section 07-55-00. Roof area of approximately 57,280 sq. ft

4. In the event any combination of alternates is accepted by the Owner all materials and workmanship shall comply with applicable contract documents and specification sections.

END OF SECTION



SECTION 01 31 13  
COORDINATION

1.1 GENERAL SCOPE:

- A. The General Conditions, Special Conditions, Instructions to Bidders, and all other parts set forth in Part 1 of the Specifications are hereby made a part hereof unless specifically excepted.

1.2 COORDINATION:

- A. Coordinate scheduling, submittals and work of the various Specification sections to assure efficient and orderly sequence of installation of interdependent construction elements with provisions for accommodating items installed later.
- B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various specification sections having interdependent responsibilities installing, connecting, and placing such equipment and utilities in service.
- C. Coordinate completion and clean up of work of separate sections of Specifications in preparation for completion of all portions of Work.

1.3 CUTTING AND PATCHING:

- A. Employ skilled and experienced installers to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements which effect the following:
  - 1. Structural integrity of element.
  - 2. Integrity of weather-exposed or moisture-resistant elements.
  - 3. Performance, efficiency, maintenance and safety of element.
  - 4. Visual qualities of exposed-to-view elements.
  - 5. Work of Owner and separate contractors.
- C. Execute cutting, fitting, and patching to complete Work, and to:
  - 1. Fit the several parts together and to integrate with other work.
  - 2. Uncover Work to install or correct ill-timed Work.
  - 3. Remove and replace defective and non-conforming work.
  - 4. Remove samples of installed work for testing.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

5. Provide openings in elements of work for penetrations of mechanical and electrical work.
- D. Execute work by methods which will avoid damage to other work, and provide proper surfaces to receive patching and finishing.
1. Provide required protection and support for existing surfaces and components.
  2. Cut rigid materials using masonry saw or core drill.
- E. Restore work with new products in accordance with requirements of Contract Documents.
1. Fit new and existing work tight to pipes, sleeves ducts, conduits, and other penetrations through surfaces.
  2. All finish or new/disturbed grades shall be made to blend smoothly and evenly into existing work on the property.
  3. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection. For an assembly, refinish entire unit.
- F. In the event hazardous substances or conditions are exposed during the work, identify such hazards to the Architect for decision or remedy.

End of Section

SECTION 01 31 19  
PROJECT MEETINGS

1.1 GENERAL SCOPE:

- A. The General Conditions, Special Conditions, Instructions to Bidders, and all other parts set forth in Part 1 of the Specifications are hereby made a part hereof unless specifically excepted.

1.2 MEETING REQUIREMENTS:

- A. Schedule regular job Site meetings at intervals of approximately one (1) week.
- B. Arrange for special meetings as may be required due to progress of the work.
- C. Meetings shall be held at the Project Site.
- D. Attendance shall be by: Owner's Representative, Architect, Contractor, Sub-Contractors, Suppliers, and such other Persons or Companies appropriate to the project construction work. All Persons attending the meetings shall be qualified, familiar with the Project, and authorized to conclude matters relating to the Project.

1.3 SUGGESTED AGENDA:

- A. Project job Site meeting shall in general contain the following agenda:
  - 1. Review of progress report and construction schedule.
  - 2. Review of off-site fabrication, delivery schedules.
  - 3. Review submittal schedules.
  - 4. Review of follow-up list of problems and incompletions.
  - 5. Field observations, problems, conflicts.
  - 6. Maintenance of quality standards.
  - 7. Review proposed changes for effect on construction schedule, completion date and other contracts.
  - 8. Other business pertinent to the work of the Project.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 01 33 00  
SUBMITTALS

1.1 GENERAL SCOPE:

- A. The General Conditions, Special Conditions, Instructions to Bidders, and all other parts set forth in Part 1 of the Specifications are hereby made a part hereof unless specifically excepted.

1.2 SUBMITTAL PROCEDURES:

A. Transmittals to Architect:

1. Transmit each submittal to Architect with sequentially numbered transmittal forms. Number re-submittals with original number and an alphabetic suffix.
2. Identify Project, Contractor, subcontractor, supplier, pertinent drawing and detail numbers, and specification section numbers as appropriate.
3. Provide space for Contractor and Architect review stamps.
4. Identify deviations from Contract Documents.

- B. Contractor's review: Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and the Contract Documents.

C. Submittals:

1. Schedule submittals to expedite the Project. Deliver to the Architect in compliance with Construction Progress Schedule.
2. Coordinate submission or related item.
3. Submit all items relating to color selection within 30 days after award of contract. Color selection will not be made until all color related submittals have been received.

- D. Revise and resubmit submittals as required, identify changes made since previous submittal.

- E. Distribute copies of reviewed submittals to appropriate parties.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.3 CONSTRUCTION PROGRESS SCHEDULE:

A. Submittals:

1. Submit initial progress schedule in duplicate within 15 days after date of Notice to Proceed for Architect review. Submitted schedules shall indicate all work to be scheduled and performed by or before the stated date of substantial completion.
2. Revise and resubmit as required.
3. Submit revised schedules with each Application for Payment, identifying changes made since from previous version.

B. Format – One of the following:

1. Computer generated horizontal bar chart with separate line for each major section of work or operation, identifying first work day of each week.
2. Computer generated network analysis diagram using the critical path method, generally as outlined in Associated General Contractors of America AGC, publication "The Use of CPM in Construction – A Manual for General Contractors and the Construction Industry."

C. Indicate the following:

1. Indicate complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
2. Indicate estimated percentage of completion for each item of work at each submission.
3. Indicate submittal dates required for shop drawings, product data samples, and product delivery dates.
4. Indicate delivery dates for items furnished by Owner and under Allowances.

1.4 SCHEDULE OF VALUES:

A. Submittal:

1. Submit initial schedule in duplicate with 15 days after date of Owner- Contractor Agreement. After review by Architect revise and resubmit as required.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

2. Submit revised schedule with each Application for Payment, reflecting changes since previous submittal.
- B. Format:
1. Submit typed schedule on AIA Form G703 – Application and Certificate for Payment Continuation Sheet. Contractor's standard form or media-driven printout will be considered on request.
  2. Utilize the table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section.
  3. Identify Site mobilization.
- C. For Unit Cost Allowance, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.
- D. Include separately from each line item a directly proportional amount of Contractor's overhead and profit.
- 1.5 PROPOSED PRODUCTS LIST:
- A. Within 10 days after date of Notice to Proceed, submit complete list of major products proposed for us, with name of manufacturer, trade name, and model number of each product.
  - B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standard.
- 1.6 PRODUCT DATA:
- A. Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Architect.
  - B. Mark each copy to identify applicable products, models, options, and other data. Supplement Manufacturers standard data to provide information unique to this product.
  - C. After review, distribute in accordance with Submittal Procedures above. Provide copies for Record Documents described in Section 01 70 00 Contract Closeout.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.7 SHOP DRAWINGS:

- A. Submit the number of opaque reproductions which the Contractor requires, plus two copies which will be retained by the Architect.
- B. After review, distribute in accordance with Submittal procedures above and for Record Documents described in Section 01 70 00.

1.8 SAMPLES:

- A. Submit samples to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittal for interfacing work.
- B. Submit samples of finishes in selected custom or standard colors, patterns, and textures for Architect selection.
- C. Identify each sample. Include full Project information.
- D. Submit the number of samples specified in individual specification sections or the number required by Contractor, plus one which will be retained by the Architect. Observe Submittal Procedures, above, relating to color submittals.
- E. Reviewed samples which may be used in the Work are indicated in individual specification sections.

1.9 MANUFACTURER'S INSTRUCTIONS:

- A. When specified in individual Specification Sections, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturer's instructions and Contract Documents.

1.10 MANUFACTURER'S CERTIFICATES:

- A. When specified in individual specification sections, submit manufacturer's certificate to Architect for review, in quantities specified for Project Data.
- B. Indicate that material or product conforms to or exceeds specified requirements. Submit supporting references date, affidavits, and certifications as appropriate.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.11 DOCUMENT REVIEW:

- A. When required by individual Specification Section, require installer and agent of manufacturer of product system to:
  - 1. Review the Contract Documents.
  - 2. Verify that systems are appropriate for the intended use.
  - 3. Submit a statement of concurrence signed by installer and manufacturer.
- B. Submit three copies of the statement of concurrence to Architect for review and acceptance.
- C. Do not proceed with installation until Architect has reviewed and accepted statement of concurrence.

END OF SECTION



SECTION 01 45 00  
QUALITY CONTROL

1.1 GENERAL SCOPE:

- A. The General Conditions, Special Conditions, Instruction to Bidders, and all other parts set forth in Part 1 of Specifications are hereby made a part hereof unless specifically excepted.

1.2 QUALITY ASSURANCE:

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' approved instructions including each step in sequence. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Use only skilled mechanics thoroughly trained and experienced in the necessary crafts to produce workmanship of specified quality.
- E. Secure products in place with positive anchorage devices designed and size to withstand stresses, vibration, physical distortion and disfigurement.

1.3 REFERENCES:

- A. Conform to specified standards by date of issue as follows:
  - 1. Code listings: For standards which are part of the Building Code in effect for this product, comply with the edition date published in the Building Code.
  - 2. Non-code listings: For standards which are not a part of the Building Code in effect for this Product, use the edition in effect at the date of Notice to Proceed, except where otherwise specified in product sections.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in reference documents.

1.4 MANUFACTURERS' FIELD SERVICES AND REPORTS:

- A. When specified in individual Specification Sections, required material supplier or manufacturer to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, and quality of workmanship; to start-up equipment: to test, adjust and balance equipment as applicable; and to initiate instructions when necessary.
- B. Require observer to report observations, Site decisions and Site instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- C. Submit to Architect a written report by observer in duplicate within 7 days of observation.

1.5 TESTING LABORATORY SERVICES:

- A. Employ and pay for services of an Independent Testing Laboratory to perform inspections, tests, and other services required by individual Specification Sections. Select laboratory and submit to Architect for approval.
- B. Direct Laboratory to perform services in accordance with requirements of governing authorities and with specified standards.
- C. Submit reports to Architect in duplicate, giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
- D. Cooperate with Testing laboratory personnel: furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
  - 1. Notify Architect and Testing Laboratory 24 hours prior to expected time for operations requiring testing services.
  - 2. Make arrangements with Testing Laboratory and pay for additional samples and tests for Contractor's convenience.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 01 50 00  
TEMPORARY FACILITIES AND CONTROLS

1.1 GENERAL SCOPE:

- A. The General Conditions, Special Conditions, Instructions to Bidders, and all other parts set forth in Part 1 of the Specifications are hereby made a part hereof unless specifically excepted.

1.2 TEMPORARY UTILITIES:

A. Electricity:

1. Contractor shall provide all electrical power and such additional power outlets as may be required for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required. Contractor shall be responsible for all cost associated with electrical power.
2. Provide main service disconnect and over current protection at convenient location.
3. Permanent Building convenience receptacles shall not be utilized during construction. Coordinate use with Owner personnel.
4. Electrical power required shall not be furnished to the Contractor by the Owner.

B. Temporary lighting:

1. Provide and maintain adequate lighting for construction operations.
2. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
3. Maintain lighting and provide routine repairs.
4. Permanent Building lighting may be utilized during construction.
5. All temporary wiring, lighting fixtures and accessory parts shall be removed when no longer needed and the permanent systems in each area has been installed.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

C. Temporary Water Service:

1. The Owner shall provide non-potable temporary water to the Contractor from outside spigot/bibb(s) designated by the Owner. The Owner shall be responsible to pay for all non-potable water used by the Contractor. The Contractor shall be responsible to provide drinking water for consumption by his employees and sub-contractors.
2. The Contractor shall provide all temporary additional water lines as may be required for construction operations, with all branch lines, fittings, and fixtures as required. Contractor shall be responsible for all cost associated with temporary additional water lines.
3. The Contractor shall provide backflow preventers at convenient location(s) if required. The Contractor shall be responsible for all cost associated with backflow preventers.
4. The Contractor shall make every effort to conserve water. Failure of the Contractor to conserve water may result in forfeiture of the right to use East Hartford Board of Education facilities.

D. Temporary sanitary facilities:

1. The Contractor shall provide all temporary toilet and sanitary facilities as may be required for construction operations. Contractor shall be responsible for all cost associated with temporary toilets and sanitary facilities.
2. Permanent Building toilets and sanitary facilities shall not be used during construction.

1.3 ENVIRONMENTAL CONTROLS:

A. Comply with applicable Federal, State, and local laws, regulations, and ordinances and the following requirements for environmental pollution control and abatement in performing construction activities throughout the Building.

B. Rubbish Disposal:

1. Do not burn, bury or dispose of debris and waste materials on the Project Site in an unauthorized manner. The Contractor shall provide dumpsters for the disposal of all waste materials generated from the project. The Contractor is not allowed to utilize Board of Education dumpsters. The Contractor is responsible for all cost associated with dumpsters and disposal of waste materials

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

C. Dust:

1. Keep dust within acceptable levels at all times, including non-working hours, weekends and holidays, in conformance with State and local regulations.
2. Only wet grinding or cutting of concrete, masonry, and asphaltic concrete will be allowed on exterior surfaces. Dry cutting or grinding may be used on interior surfaces provided openings are covered.
3. Mechanical dry sweeping not permitted: Vacuuming, wet mopping, approved limited dry hand, wet or damp sweeping is acceptable.
4. During loading operations, water down debris and waste materials to allay dust.
5. Select method of dust control and pay all costs incurred.

D. Air pollution:

1. Do not permit or cause air pollution from mist, smoke, vapor, gas, odorous substances and particulate matter.
2. Do not operate any gasoline or diesel-powered vehicle or equipment on the Building Site which emits visible smoke.

E. Noise: Muffle internal combustion engine-powered equipment to minimize noise and properly maintain to reduce noise to acceptable levels.

F. Others

1. If spray application is allowed under the other Specification Sections, use 'airless spray' process only.
2. Where the requirements of other Project Manual Sections are in conflict with this Section, the more stringent requirement shall govern.
3. Suspension of work: Violation of any of these requirements or any other pollution control requirements which may be specified in other sections may cause suspension of the work creating such violation. No additional compensation will be allowed for remedial measures to correct the offense and no extension of time will be granted for delays caused by such suspensions. If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered, the Owner reserves the right to take whatever action is necessary to correct the situation and to deduct costs incurred in taking such action from monies due the Contractor.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.4 TEMPORARY CONTROLS:

A. Barriers:

1. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of Site, and to protect existing Building facilities and adjacent properties from damage from construction operations and demolition.
2. Provide barricades required by governing authorities for public rights-of-way and for public access to existing Building and facilities.
3. Protect non-owned vehicular traffic, stored materials, Site and other structures and facilities from damage.
4. Contractor shall be responsible for all cost associated with the construction, maintenance, and removal of all barriers and fences.

B. Protection:

1. Protect installed work and existing improvements. Provide special protection where specified in individual Specification Sections.
2. Control traffic and activity to prevent damage to components and services.
3. Provide temporary and removable protection for installed products.
4. Landscaping:
  - a. Protect existing and new landscaping against damage from construction operations on the property. The Contractor is responsible to restore the landscaping due to damage caused by or as a result of their construction operations.
  - b. Do not dispose of paint, petroleum products, dirty water or other deleterious materials on or around roots.
  - c. Do not burn trash under or near shrubs or trees.
  - d. Do not permit compaction of root areas within drip line by foot, vehicle or machine traffic, or by the storage of equipment, gravel, earth fill, supplies or materials.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- e. Do not damage trunks or limbs by maneuvering vehicles or stacking material and equipment too close.
- f. Do not allow puddling or continuous running water under trees or on landscaped areas.
- g. Do not allow traffic on landscaped areas.

1.5 CONSTRUCTION FACILITIES:

A. Security:

- 1. Provide security and facilities, to protect Work, and existing improvements, and Owner's operations from unauthorized entry, vandalism, and theft.
- 2. Coordinate with Owner's security program for all facilities.

B. Access:

- 1. Maintain access to fire hydrants free of obstructions.
- 2. Only designated Site paved areas may be used for construction traffic.

C. Parking:

- 1. Arrange with Owner's personnel for designated Site parking areas to accommodate construction personnel.

D. Progress Cleaning:

- 1. Maintain areas free of waste materials, debris, and rubbish. Maintain Site in a clean and orderly condition.
- 2. Remove debris and rubbish prior to enclosing pipe chases, plenums, attics, crawl spaces and other closed or remote spaces.
- 3. Broom and vacuum clean areas prior to start of surface finishing. Continue cleaning to eliminate dust.
- 4. Remove waste material, debris, and rubbish from construction areas daily. Dispose of debris in an authorized manner.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.6 REMOVAL OF TEMPORARY UTILITIES AND FACILITIES:

- A. Remove temporary utilities, equipment, facilities and materials prior to Final Inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent new facilities used during construction to specified condition.

1.7 ENVIRONMENTAL CONTROLS:

- A. Comply with applicable Federal, State, and Local Laws, regulations and ordinances and the following requirements for environmental pollution control and abatement in performing construction activities.
- B. Hazardous Materials: Abatement will be performed as part of this contract. Comply with all requirements of the Contract.
- C. Coordinate Construction work with abatement work. Contractor is responsible for the abatement/removal and disposal of asbestos and PCBs and all associated costs. Verify abatement schedules with the Owner's representative and the Architect.

END OF SECTION



SECTION 01 70 00  
CONTRACT CLOSEOUT

1.1 GENERAL SCOPE:

- A. The General Conditions, Special Conditions, Instructions to Bidders, and all other parts set forth in Part 1 of the Specifications are hereby made a part hereof unless specifically excepted.

1.2 CLOSEOUT PROCEDURES:

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect's final review.
- B. Provide submittals to Architect/Owner that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Owner will occupy portions or all of the Buildings and site specified in section 01 10 00.
- E. Comply with requirements for Final Observation of the Work as set forth in Special Conditions, Section B; coordinate with the requirements set forth in this Section 01 70 00.

1.3 FINAL CLEANING:

- A. Execute final cleaning prior to final review by the Architect.
- B. Clean equipment, site and fixtures to a sanitary condition.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the Building(s) and from the site.

1.4 ADJUSTING:

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.5 PROJECT RECORD DOCUMENTS:

A. Maintenance of documents and samples:

1. Maintain on Site one set of the following record documents:
  - a. Contract Drawings.
  - b. Specifications.
  - c. Addenda.
  - d. Change Orders and other Modifications to the Contract.
  - e. Reviewed shop drawings, product data, and samples.
2. Store Record Documents separate from Documents used for construction.

B. Recording:

1. Record concurrently with construction progress on reproducible drawings provided for this purpose. Do not conceal Work until actual revisions to the Work are recorded.
2. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - a. Manufacturer's name and product model number.
  - b. Product substitution or alternates utilized.
  - c. Changes made by Addenda and Modifications.
3. Record documents and shop drawings: Legibly mark each item to record actual construction including the following:
  - a. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - b. Field changes of dimension and detail.
  - c. Details not on original Contract Drawings.
4. Other documents: Maintain manufacturer's certifications, inspection certifications and field test records required by individual Specifications Sections.
5. Delete Architect title block from all Record Documents.

C. Submittals:

1. At Contract close-out, submit Record Documents with transmittal letter in duplicate, containing date, project title, list of documents and contractor's name, address, and signature. Arrange documents in sequence with index.
2. Submit the marked-up reproducible and two prints for each record drawing and three copies of each 8 1/2" x 11 drawing.

1.6 OPERATION AND MAINTENANCE DATA:

A. Prepare and submit two sets of operating and maintenance manuals prior to final inspection.

1. 8 1/2 x 11 inch three D side ring binders with durable plastic covers.
2. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when more than one binder is required.
3. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

B. Contents of manuals:

1. Prepare a Table of Contents for each volume with each Product or system description identified.
2. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
3. Part 2: Operation and maintenance instructions, arranged by system and subdivided by Specification Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
  - a. Significant design criteria.
  - b. List of equipment.
  - c. Parts list for each component.
  - d. Operating instructions.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- e. Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.

4. Part 3: Project documents and certificates including the following:

- a. Shop drawings and product data.
- b. Certificates.
- c. Photocopies of warranties and bonds.

D. Submittal:

- 1. Submit one copy of completed volumes in final form 15 days prior to final review with Architect comments. Revise content of documents as required prior to final submittal.
- 2. Submit final volumes revised within ten days after final review.

1.7 WARRANTIES:

A. Provide notarized copies of each warranty and bond.

- 1. Execute and assemble documents from subcontractors, suppliers, and manufacturers.
- 2. Assemble in three D side ring binder with durable plastic cover.
- 3. Prepare binder covers with printed title "WARRANTIES AND BONDS" and title of project.
- 4. Provide Table of Contents.

B. Submit prior to final Application for payment.

C. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

1.8 STATEMENT OF APPLICATION:

- A. When required by individual Specification Section, upon completion of the work and as condition of its acceptance, submit a statement in duplicate signed by the product installer stating the following:
  - 1. Materials conform to Specifications.
  - 2. Products were installed in accordance with Specifications and the manufacturers' written instructions.
  - 3. Installation was proper and adequate for the conditions of installation and performance.
- B. When required by individual Specification Section, Contractor shall jointly execute statement of application.

1.9 SPARE PARTS AND MAINTENANCE MATERIALS:

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to Project Site and place in location as directed. Obtain receipt prior to final payment.

END OF SECTION

**SECTION 02 41 14.13  
REMOVAL AND SALVAGE OF CONSTRUCTION MATERIALS**

**PART I- GENERAL**

**1.1 Related Documents**

The provisions of the Contract, the General Conditions, the Supplementary Conditions and other Division I Specification Sections, apply to the work in this section.

**1.2 Work Included**

Demolition work shall include, but is not limited to the following:

- A. Removal of the existing built-up/modified built-up roof membrane system, related flashings, sheet metal and deteriorated wood blocking and insulation down to the existing metal, tectum or concrete roof decks.
- B. Removal of existing fascia/gravel stops, edge trim and associated parts.
- C. Removal of the existing metal flashings and removal of lead flashings must be accomplished by workers who have completed OSHA Lead Training (4 hr course) in accordance with OSHA regulations 1926.62.
- D. Two acceptable practices shall be utilized for these projects – Hopper or Chutes.

**1.3 Coordination**

- A. It is the responsibility of the Contractor to coordinate the work of this section with all other work on the Project.

**1.4 Job Conditions**

- A. The Contractor shall inspect the premises prior to the submittal of its bid for conditions which may affect its work.
- B. Demolition, storage of materials, removal of debris and construction operations shall not interfere with the Owner's use of the property.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.5 Permits

- A. The Contractor shall obtain, at its expense, all permits required by governing authorities, including any required for disposal of demolition debris or for use or blockage of streets or sidewalks.

1.6 Sequence of Operations

- A. The Contractor shall submit for approval the complete sequence of operations for demolition and show how this Work is coordinated with all other aspects of the Project. Work shall not begin until such a schedule has been approved in writing by the Owner or his authorized representatives.
- B. The Contractor shall schedule a pre-construction meeting to review the procedures for the removal, handling, storage and transportation of all hazardous materials. The Contractor shall notify the personal assigned to remove the hazardous materials, the Owner and Architect of the time, date and location of the meeting.
- C. The Contractor shall ensure personal handling hazardous materials shall have the proper hazardous material/OSHA training. All personal when handling hazardous materials will be equipped and dressed in OSHA approved garments.

PART II- PRODUCTS

Not Applicable

PART III- EXECUTION

3.1 Protection

- A. Before starting demolition, the Contractor shall be solely responsible for making the necessary arrangements and for performing the necessary work involved in connection with the discontinuance or interruption of public and private utilities or services or components of said utilities or services under the jurisdiction of the Owner, utility companies or corporations, Police Department, Fire Department and Public Works Department including but not limited to gas, electricity, telephone, police signal, fire alarm, water, sanitary sewer, storm drainage and other systems which will be affected by the work to be performed under this Contract.
- B. The Contractor shall preserve in operating condition active utilities traversing the work site and shall protect manholes, catch basins, valve boxes and other apparatus. He shall repair damage to any such utility, due to work under this Contract, to the satisfaction of the Owner or his authorized representatives.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- C. Adequate protection of persons and property shall be provided at all times. The work shall be executed in a manner to avoid interference with the use of adjacent buildings, areas or properties, and to avoid interruption of free passage to or from such buildings, areas or properties.
- D. Investigate and comply with any rules or regulations relative to providing and paying for uniformed Police to regulate or control traffic on existing streets which are affected by the Contractor's operation.
- E. Furnish signs, lights, barricades and other equipment as may be necessary for the safe execution of the work.
- F. Lead coated copper if not recycled must be disposed of as hazardous material/construction debris in accordance with all applicable local, state and federal regulations.
- G. The Contractor shall notify DEEP/DPH prior to the removal and disposal of asbestos and PCBs. All hazardous materials shall be disposed of in accordance with all governing local, State and Federal laws and regulations.
- H. Hazardous Materials: In the event the Contractor finds any undocumented asbestos, PCBs or other hazardous materials which require abatement the Contractor shall stop work immediately and notify the Architect and Owners Representative

### 3.2 Removal

- A. Remove the existing built-up roof system, flashings, membrane roof system, membrane flashing and sheet metal. Carefully inspect and repair exposed surfaces, utilities, roof penetrations, etc., for damage and repair or replace as required.
- B. Removal shall result in a smooth, consistent substrate for application of wood blocking, membrane and membrane flashing.
- C. A thorough inspection of the existing substrate and adjoining materials shall be made to determine if any repairs are required. If conditions are uncovered or created that would be detrimental to the application of specified work, immediately notify the Owner's Representative of such conditions for determination of treatment.
- D. All Hazardous materials once abated will be stored and removed from the site in accordance with all governing local, State and Federal laws and regulations.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



### 3.3 Pollution Control

- A. The Contractor shall be aware that the facility must remain in use throughout the course of construction and that any disruption or inconvenience sustained by the Owner, employees, visitors and patrons must be kept to an absolute minimum. To this end, the Contractor shall provide, if necessary, a water spray and impermeable barrier to minimize dust and debris infiltration. Also the Contractor shall select equipment and procedures to mitigate noise discomfort.
- B. Debris shall be considered the property of the Contractor and shall be removed for the site in its entirety on a daily basis and be legally disposed. On site storage of discarded material will only be permitted when stored in a covered container.

### 3.4 On-Site Storage

- A. Equipment or materials stored on the roof shall be distributed in such a manner that no structural building components are over stressed.
- B. Ground level storage areas, if available, will be provided adjacent to the facility for equipment and new materials. Size and location of area shall be coordinated with the Owner.
- C. No debris or waste material shall be stored on or within the building, unless otherwise designated.

### 3.5 Repair of Damages

- A. The Contractor shall provide a list of damaged or deteriorated elements of the building and adjacent areas to the Owner prior to demolition and shall be responsible for repair or replacement of damaged or deteriorated items not on that list when the operations of the Contractor are substantially complete.
- B. Damage to any portion of the building which results in disruption of or inconvenience to the Owner, employees or patrons shall be immediately repaired or replaced by the Contractor. If such restitution is not promptly made, the Owner shall have the necessary work performed by an outside agency at the Contractor's expense. Such work shall be completed to the satisfaction of the Owner prior to the release of final payment.

### 3.6 Environmental Requirements

- A. Do not apply roofing membrane during inclement weather or when a 20% chance of precipitation is expected.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. Do not apply roofing vapor barrier, insulation or membrane to damp deck surface.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

### 3.7 Clean-Up

- A. The building and adjacent areas shall be left in a broom clean condition at the end of each day.
- B. On completion of the work of this section and after removal of debris, the site shall be left in a clean and safe condition, satisfactory to the Owner or his authorized representative.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

May 10, 2023



**HIBBARD & ROSA ARCHITECTS, L.L.C.**

100 RIVERVIEW CENTER - SUITE 272 – MAIN STREET  
MIDDLETOWN, CT 06457

Summary of Roof Core Cuts

Robert J. O'Brien STEM Academy, East Hartford, CT

May 10, 2023,

Core cut #1:

4 ply built-up roof w/gravel on ½”  
fiberglass insulation on 1-1/2” tapered  
polyisocyanurate insulation on vapor  
barrier on concrete roof deck



Core cut #2:

4 ply built-up roof w/gravel on ½”  
fiberglass insulation on 4-3/4” tapered  
polyisocyanurate insulation mopped to  
tectum roof deck



Roof Replacement  
Robert J. O'Brien STEM Academy  
East Hartford, CT

Core Cut Summary

May 10, 2023

Core cut #3:

4 ply built-up roof w/gravel on ½” fiberglass insulation on 5-1/2” tapered polyisocyanurate insulation on metal roof deck



Core cut #4:

4 ply built-up roof w/gravel on ½” fiberglass insulation on 3” tapered polyisocyanurate insulation mopped to tectum roof deck



Core cut #5:

4 ply built-up roof w/gravel on ½” fiberglass insulation on 3-1/2” tapered polyisocyanurate insulation mopped to tectum roof deck



Roof Replacement  
Robert J. O'Brien STEM Academy  
East Hartford, CT

Core Cut Summary

May 10, 2023

Core cut #6:

4 ply built-up roof w/gravel on ½”  
fiberglass insulation on 4-1/2” tapered  
polyisocyanurate insulation mopped to  
metal roof deck



Core cut #7:

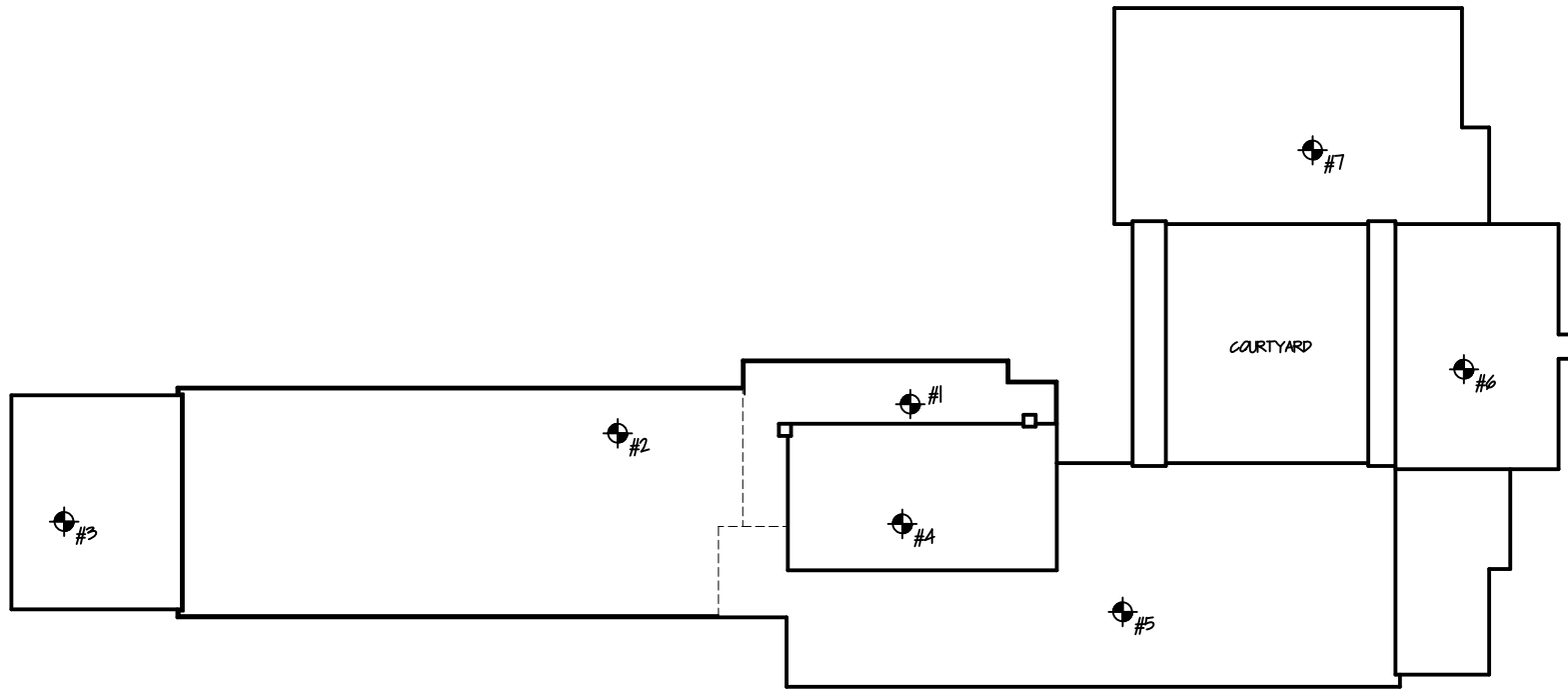
4 ply built-up roof w/gravel on ½”  
fiberglass insulation on 5” tapered  
polyisocyanurate insulation mopped to  
metal roof deck



Summary prepared by T. Hibbard.

Roof Replacement  
Robert J. O'Brien STEM Academy  
East Hartford, CT

Core Cut Summary



ROOF CORE CUT PLAN

SCALE: N.T.S.

SCHEMATIC ROOF PLAN FOR  
 ROBERT J. O'BRIEN STEM ACADEMY  
 56 FARM DRIVE - EAST HARTFORD, CT

PROJECT DATA:

DATE: 05-10-23

COM#: 2023-21

**HRA**

HIBBARD &  
 ROSA  
 ARCHITECTS  
 100 RIVERVIEW CENTER  
 292 MAIN STREET  
 MIDDLETOWN, CT  
 EMAIL: hra@hrabz

### ASBESTOS SURVEY

The following asbestos testing results/report dated 04-30-92 is taken from the 1994 roof replacement drawings. Recent core cuts confirm the roof and asbestos containing roof materials were removed down to the roof deck prior to the installation of the existing roof system.

Analysis: ASBESTOS IDENTIFICATION  
Analytical Method: Polarized Light Microscopy with dispersion staining at 100 x Magnification; NIOSH 9002

Sample Number	Analytical Results
* 1	No asbestos detected
* 2	Chrysotile Asbestos; Trace <1%
* 3	No asbestos detected
4	No asbestos detected
* 5	No asbestos detected
* 6	No asbestos detected
→ * 7	Chrysotile Asbestos; 20 %
* 8	No asbestos detected
* 9	No asbestos detected
* 10	No asbestos detected

\* Denotes Non-Homogeneous Samples.

Fine fibers (<0.1um in dia.) cannot be resolved by PLM. Samples containing s (eg: paint, vinyl tiles) can produce a false negative result. Confirmation can accomplished by using TEM or SEM analyses.

Percentages given are visual estimates based on surface area. EHL's QC proc consists of participation in the NIST NVLAP Bulk Asbestos Identification Quality Assurance Program. Duplicate analysis of 10% of all samples and biweekly blind exchange with our Macon, GA location.

Samples were homogeneous unless indicated otherwise above.

*Dave Torzillo*  
Dave Torzillo

Analyst: \_\_\_\_\_ Date: \_\_\_\_\_

< = Less than

2-10012 Printed in U.S.A.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 04 06 50  
MASONRY MORTAR AND GROUT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section includes mortar and grout for brick masonry units for new restoration and repair.

1.3 SUBMITTALS

- A. Samples: Submit two samples of mortar, illustrating mortar color and color range.
- B. Submit mix design for mortar and grout.
- C. Submit manufacturer's data for water repellent admixtures.

1.4 QUALITY ASSURANCE

- A. Comply with governing codes and regulations.
- B. Perform Work in accordance with MSJC Code (ACI 530/ASCE 5/TMS 402) and MSJC Specification (ACI 530.1/ASCE 6/TMS 602).
- C. Maintain one copy of each document on site.
- D. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years.
- E. Deliver, handle, and store materials in accordance with manufacturer's instructions. Prevent exposure to moisture during storage.
  - 1. Mortar admixture must be protected from freezing. Store at temperatures above 40 F and below 118 F, in tightly-closed containers.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



## 1.5 ENVIRONMENTAL REQUIREMENTS

- A. Hot and Cold Weather Requirements: Perform work in accordance with MSJC Specification.
- B. Weather protection: Cold weather: heat mortar, water, and sand, enclose walls and provide temporary heat as recommended by BIA Tech Notes 1, 1A, 1B, and 1C. Hot weather: use mortar within 1-½ hours after mixing for ambient 80 degrees F or above.

## PART 2 PRODUCTS

### 2.1 APPROVED MANUFACTURERS

- A. Mortar And Masonry Grout Manufacturers:
  - 1. Blue Circle Cement
  - 2. Citadel Cement] Model
  - 3. Lehigh Portland Cement
  - 4. The Quikrete Companies
  - 5. Substitutions: As approved by Architect.

### 2.2 MORTAR ADMIXTURES:

- A. Manufacturers:
  - 1. Rheopel mortar admixture (Polymeric water repellent) as manufactured by:  
Masters Builders, Inc.  
23700 Chagrin Blvd.  
Cleveland, OH. 44122-5554
  - 2. Substitutions as approved by Architect

### 2.3 COMPONENTS

- A. Premix Mortar: Complying with ASTM C387, Type N above grade; Type M below grade; Other types as required by application. Inorganic oxide mortar pigments, color as selected.
- B. Mortar Aggregate: Complying with ASTM C144, standard masonry type.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- C. Hydrated Lime: Complying with ASTM C207, Type S.
- D. Grout Aggregate: Complying with ASTM C404, fine texture.
- E. Water: Clean and potable.
- F. Mortar admixture: Rheopel Mortar admixture, polymeric water repellent admixture for masonry mortar, or equal. Demonstrating resistance to moisture resistance and wind-driven rain and complying with ASTM E514 and ASTM C 1072
- G. Bonding Agent: Epoxy type.

#### 2.4 MIXES

- A. Mortar Mixes:
  - 1. Mortar for Structural Masonry: ASTM C270, Type N above grade; Type M below grade; other types as required by application.
  - 2. Mortar for Non-Structural Masonry: Complying with ASTM C270, Type S.
  - 3. Pointing Mortar: Complying with ASTM C270, Type O.
- B. Mortar Mixing:
  - 1. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.
  - 2. Do not use anti-freeze compounds to lower the freezing point of mortar.
  - 3. All mortar shall contain a polymeric water repellent admixture
- C. Mortar Admixture:
  - 1. Add 16 oz of Rheopel mortar admixture to each bag of cementitious materials to be used in the mix.
  - 2. Mix all mortar ingredients until thoroughly blended, and wetted to consistency which is somewhat drier than desired.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

3. Add the proper amount of Rheopel mortar admixture.
  4. Continue mixing for an additional 1 to 1-1/2 minutes while adjusting the consistency with final mix water. Total mix time shall be 3 to 5 minutes.
- D. Grout Mixes:
1. For Engineered Masonry: 3,000 psi strength at 28 days; 8-10 inches slump; premixed type in accordance with ASTM C94 mixed in accordance with ASTM C476 Course grout.
- E. Grout Mixing:
1. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C476.
  2. Do not use anti-freeze compounds to lower the freezing point of grout.

### PART 3. EXECUTION

#### 3.1 PREPARATION

- A. Apply bonding agent to existing concrete surfaces.

#### 3.2 INSTALLATION

- A. Install mortar and grout in accordance with MSJC Specification.

#### 3.3 FIELD QUALITY CONTROL

- A. Testing of Mortar Mix: In accordance with ASTM C780.
- B. Testing of Grout Mix: In accordance with ASTM C1019.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 05 52 00  
FREESTANDING GUARDRAIL SYSTEM

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Provide and install freestanding guardrail/roof edge protection system, including pipe railings , uprights, bases, counterweights and fittings.
- B. Related Related Sections: The following sections contain requirements that relate to this section.
  - 1. Section 07 52 16 Modified Bituminous Membrane Roofing

1.3 REFERENCES

- A. American National Standards Institute (ANSI):
  - 1. A21.1 - Safety Requirements for Floor and Wall Openings, Railings and Toe Boards.
  - 2. A58.1 - Minimum Design Loads in Buildings and Other Structures.
  - 3. A1 17.1 - Accessible and Usable Buildings and Facilities
- B. American Society of Testing and Materials (ASTM)
  - 1. A47 - Standard Specification for Ferrite Malleable Iron Castings.
  - 2. A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded Seamless.
  - 3. A153 - Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware
  - 4. A500 - Standard Specification for Cold Formed Welded and Seamless Carbon Steel Structural Tubing.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

C. Occupational Safety & Health Administration (OSHA)

1. 1910.23 – Guarding Floor and Wall Openings and Holes.

1.4 SUBMITTALS

A. Manufacturer's data sheets to be used, including:

1. Preparation instructions and recommendations.
2. Shop Drawings: indicate profiles, sizes, connections, size and type of fasteners and accessories.
3. Field Measurements: Verify field measurements prior to assembly and/or ordering.
4. Storage and handling instructions.
5. Installation instructions.

B. Shop Drawings: Drawings showing fabrication and installation of handrails and guardrails including plans, elevations, sections, details of components, anchor details, and attachment to adjoining units of work.

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of colors and patterns.

1.5 QUALITY ASSURANCE

A. Railings Structural Requirements:

1. Handrail, wall rail and guardrail assemblies and attachments shall withstand a minimum concentrated load of 200 lbs applied in any direction on the top rail.
2. Infill area of guardrail system capable of withstanding a horizontal concentrated load of 200 lbs applied to one square foot at any point in the system. Load not to act concurrently with the loads on top rail of system in determining stress on guardrail.

1.6 DELIVERY, STORAGE AND HANDLING

A. Materials to be delivered to the job site in good condition and adequately protected against damage.

B. Store products in manufacturer's unopened packaging until ready for installation.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## 1.7 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.
- B. Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings.
  - 1. Where field measurements cannot be made without delaying the railing fabrication and delivery, obtain guaranteed dimensions in writing by the Contractor and proceed with fabrication of products to not delay fabrication, delivery and installation.
- C. Coordinate fabrication and delivery schedule of handrails with construction progress and sequence to avoid delay of railing installation.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Kee Safety, Inc. located at 100 Stradman St. Buffalo, NY 14206; Toll Free Tel: 800- 851-5181; Tel: 716-896-4949, Email [info@keesafety.com](mailto:info@keesafety.com), Web: [www.keesafety.com](http://www.keesafety.com)
- B. Substitutions as approved by Architect.

### 2.2 SYSTEMS

- A. Provide pipe or tubing, fittings, and accessories as indicated or required to match design indicated on Drawings.
  - 1. Fittings: Cast iron
  - 2. Handrail Tubing, 12 gage, Size
    - a. 1-1/2 inches – 1.90 inches O.D.
    - b. 1-1/4 inches – 1.660 inches O.D.
  - 3. Handrail Pipe, Schedule 40, Size
    - c. 1-1/2 inches – 1.90 inches O.D.
    - d. 1-1/4 inches – 1.660 inches O.D.
  - 4. Infill Panels: As indicated. Refer to Drawings.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. Roof Edge Protection: Provide freestanding KeeGuard Roof Edge Protection System, Including pipe railings, uprights, bases, counterweights and fittings.
  - 1. Freestanding counterweighted guardrail system with 42 inch minimum height to provide guardrail on roof to withstand a minimum load of 200 lbs in any direction to the top rail per OSHA regulation 29 CFR 1910.23
  - 2. Pipe Steel, 1-1/2 inch schedule 40, galvanized pipe.
  - 3. Tube: Galvanized tube, 12 gage, 1-1/2 inch, 1.90 inch O.D.
  - 4. Rails and Posts: Galvanized Tube, 12 gage, 1-1/4 inch, 1.660 diameter.
  - 5. Counterweight Levers: Galvanized Tube, 12 gage, 1-1/4 inch, 1.660 diameter.
  - 6. Mounting Bases: Steel bases are galvanized and are supplied with a rubber pad on underside of the component.
  - 7. Counterweights: Molded recycled PVC with one fixing collar per counterbalance.
  - 8. Fasteners: Stainless steel or galvanized.
- C. Custom Design: Provide pipe, fittings, and accessories as indicated or required by Drawings to match design indicated.

### 2.3 MATERIALS

- A. Pipe:
  - 1. Steel Pipe: Steel, 1-1/2" inch schedule 40, galvanized.
  - 2. Tube: Galvanized tube, 12 gage, 1-1/2 inch, 1.90 inch O.D.
- B. Fittings, Including Elbows, Crossovers, Wall Flanges, Tees, Couplings.
  - 1. Galvanized Malleable Cast Iron: Kee Klamp structural pipe fittings, ASTM A447 with ASTM A153 galvanizing.
- C. Finish: Polyester factory applied finish.
- D. Fasteners: Type 304 or 305 stainless steel or galvanized.

### 2.4 FABRICATION

- A. Fit and shop assemble components in largest practical sizes for delivery to site.
- B. Upright tops shall be plugged with weather and light resistant material.
- C. Assemble components with joints tightly fitted and secured. Accurately form components to suit installation.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Fit exposed connections accurately together to form tight joints. For all connections with Kee Klamp fittings, each set screw is to be tightened to 29 foot pounds of torque.
- C. Perform cutting, and fitting required for installation of guardrails, Set guardrails and accurately in location, alignment, and elevation, measured from established lines and levels.

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



SECTION 06 10 00  
ROUGH CARPENTRY

PART I - GENERAL

1.1 RELATED DOCUMENTS:

The provisions of the Contract, the General Conditions, the Supplementary Conditions and other Division I Specification Sections, apply to the work in this section.

1.2 RELATED SECTIONS

A. Drawing and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections, Apply to this Section.

B. Related Sections

1. Section 07 22 18 - Preparation for Re-Roofing
2. Section 07 27 00 - Roof and Deck Insulation
3. Section 07 62 00 - Sheet Metal Flashing and Trim

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM C-209 Water Absorption, % by Volume
2. ASTM C-1289, Type V
3. ASTM D-2126 Dimensional Stability Change
4. ASTM D-16121 Compression Resistance
5. ASTM E96 Moisture Vapor Transmission
6. ASTM E-108 Class A fire resistance rating

B. Federal Specification

1. HH-1-1972/Gen and HH-1-1972/2

1.4 DELIVERY, STORAGE AND HANDLING

A. Time delivery and installation of carpentry work to avoid delaying other trades whose work is dependent on or affected by the carpentry work.  
Keep materials dry during delivery

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. Store lumber, plywood and insulated nail board in stacks with provisions for air circulation within stacks. Protect bottom of stacks against contact with damp or wet surfaces.
- C. Protect exposed materials against water and wind. Remove damaged or unsuitable material from the job site.

#### 1.5 QUALITY ASSURANCE

- A. Comply with governing codes & regulations. Use experienced installers.
- B. Lumber Standards: American Softwood Lumber Standard PS 20-70 by the U.S. Department of Commerce.
- C. Plywood Standards: U.S. product Standard PSI-74/ANSI A 199.1 or latest APA Performance Standards for American Plywood Association.
- D. Factory Marking: Mark each piece of lumber or plywood to indicate type, grade, agency providing inspection service.
- E. Size and Shape: Dress lumber 4 sides (S4S) and work to shapes and patterns shown. Nominal sizes shown and specified refer to undressed lumber dimensions. Detailed dimensions show actual lumber size required.

#### 1.6 SCOPE OF WORK

- A. Add wood blocking to meet new insulation heights according to drawings.
- B. Replace deteriorated trim in kind and install new wood.

### PART II - PRODUCTS

#### 2.1 DIMENSIONAL LUMBER AND PLYWOOD

- A. Construction Lumber: Standard Grade Douglas Fir, Western Larch, Western Hemlock (WWPA or WCLB) or No. 2 dimension Southern Pine (SPIB).
- B. Exterior Type Plywood: APA Rated sheathing, EXT.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- C. Bucks, Nailers, Blocking, Etc.: No. 2 common grade of any WWPA or WCLA species or No. 2 Southern Pine (SPIB).
- D. Anchorage and Fastenings: Proper type, size material and finish for each application.
- E. Quality: Sound, seasoned, well manufactured materials of longest practical practical lengths and sizes to minimize joints. Free from warp which cannot be easily corrected by anchoring and attachment. Discard material with defects which would impair quality of work.

## 2.2 WOOD TREATMENT

- A. Wood Preservative (Pressure Treatment): AWWPA Treatment C1 using water borne preservative with 0.25 pcf retention.
- B. Shop Preservative treated wood materials indicated on drawings.

## PART III - EXECUTION

### 3.1 EXAMINATION

- A. Verify measurements and dimensions shown before proceeding with carpentry work.
- B. Examine supporting structure and conditions under which carpentry work is to be Installed. Do not proceed with installation until unsatisfactory conditions have been corrected.
- C. Correlate location of nailers, blocking and similar supports for attached work.
- D. Scribe and cope as required for accurate fit of carpentry work to other work.

### 3.2 Protection

- A. Protect installed work from damage by other trades until acceptance of work

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 3.3 Installation of Lumber and plywood products

- A. Provide all nailers, blocking and sleepers where shown on the drawings or required for attachment of other work. Minimum flashing height of eight (8) inches is required. Coordinate with location with other work involved; refer to shop drawings of such work.
- B. Attach to substrate securely as required to support applied loading. Countersink bolts and nuts flush with surfaces.
- C. Securely attach wood nailers to substrates in accordance with Factory Mutual Loss Prevention Data Sheet 1-49 and as required by recognized standards.
- D. Provide washers under bolt heads and nuts in contact with wood.
- E. Do not wax or lubricate fasteners that depend on friction for holding power.
- F. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish material.
- G. Make tight connections between members. Install fasteners without splitting of wood; predrill as required. Do not drive threaded friction type fasteners; turn into place. Tighten bolts and lag screws at installation and retighten as required for tight connections prior to closing in or at completion of work.

END OF SECTION

SECTION 07 22 18  
PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Remove the following existing roofing systems:
  - 1. Existing built-up/modified built-up roof system, base flashings, sheet metal, vent stack flashings, existing roofing system, and rigid insulation down to the metal, tectum or concrete roof deck, clean walls, conduits, and any remains of any types of roofing systems. Sweep or clean all debris off of the deck and walls.

1.2 PRE-INSTALLATION CONFERENCE

- A. Refer to Section 01 31 13
- B. Review installation procedures and coordination required with related work.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Do not remove existing roofing systems or damaged decking when weather conditions threaten the integrity of the building contents or intended continued occupancy. Maintain continued temporary protection prior to installation of the new roofing system.

1.4 PROTECTION

- A. It shall be the Contractor's responsibility to respond immediately to correction of roof leakage during construction. A four (4) hour time limit shall be given from the time of notification of emergency conditions. In the event of water penetration during rain or a storm, the Contractor shall provide for repair or protection of the building contents and interior. If the Contractor does not respond or cannot be contacted, the Owner will effect repairs or emergency action and the Contractor shall be back charged for all expenses and damages, if any.
- B. Extra protection to be taken when work is being conducted over sensitive areas. Protection such as tarps or polyethylene sheathing shall be lined on surface.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## 1.5 SCHEDULING

- A. Schedule work to coincide with commencement of installation of new roofing system.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Temporary protection: Sheet Polyethylene. Provide weights or fasteners to retain sheeting in position.
- B. Base Sheet: ASTM D-4601 Type II. Provide weights or fasteners to retain sheeting in position.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. The Roofing Contractor is to verify existing site conditions, including roof dimensions.
- B. The Roofing Contractor must verify that the existing roof surface is clear and ready for work of the section.

### 3.2 MATERIALS REMOVAL

- A. Remove all gravel, membrane, cant strips, rigid insulation, expansion joints, base flashings, walls, and any other items shown on the drawings. In addition, complete removal of all nails and other debris is required to leave a smooth, even surface for re-roofing.
- B. Under certain conditions, it will be necessary and desirable to incorporate one or more of the following methods for removal of dirt, silt, gravel, debris, roof membrane and insulation from the roof surface in order to preserve the ecology, eliminate unsightly conditions, and protect the building surfaces:
  - 1. Roof vacuum systems.
  - 2. Crane and hopper with dump truck system.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- 3. Enclosed chutes with protective shrouds on the building and ground surfaces.
- B. All debris dumped from the roof shall be transported from the roof via chutes into dumpsters or trucks and this debris shall be removed from the premises when vehicles are full at the Contractors cost. No debris shall be transported from the area being worked on over a previously finished roof without an underlayment of 3/4" plywood.
- D. All roof equipment not in use or left filled will be parked on the column lines on 3/4" plywood.
- E. Building and/or ground damage caused by the removal or installation of the roof system will be the sole responsibility of the Contractor.

### 3.3 TEMPORARY PROTECTION

- A. Provide temporary protective sheeting over uncovered deck surfaces.
- B. Turn sheeting up and over parapets and curbing. Retain sheeting in position with weights or temporary fasteners.
- C. Provide for surface drainage from sheeting to existing drainage facilities.
- D. Do not permit traffic over unprotected deck surface.

### 3.4 INTERIOR TEMPORARY PROTECTION

- A. Provide temporary protective sheeting over Gymnasium floors, Administrative office furnishings and equipment, kitchen equipment, computer labs while working over these areas with Ramboard.
- B. Contractor responsible for cleaning all dust and any fallen debris from interior of the Gymnasium Floor, Administrative Offices, Kitchen and computer/electronic equipment.
- C. Owner shall close access to the gymnasium, kitchen, media center and computer labs during the roof replacement of that section. The Gymnasium, kitchen, media center and computer labs shall remain closed until proper clean-up and acceptance by the Owner.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 07 27 00

ROOF DECK AND INSULATION

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes roof insulation over the properly prepared deck substrate.
- B. Related Sections:
  - 1. Section 07 55 00 – Modified Bituminous Membrane Roofing.
  - 2. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM A167 Standard Specification for Stainless and Heat-Resisting Chromium Nickel Steel Plate, Sheet and Strip.
  - 2. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process.
  - 3. ASTM B29 Standard Specification for Refined Lead.
  - 4. ASTM B32 Standard Specification for Solder Metal.
  - 5. ASTM C165 Standard Test Method for Measuring Compressive Properties of Thermal Insulation.
  - 6. ASTM C208 Standard Specification for Cellulosic Fiber Insulation Board.
  - 7. ASTM C209 Standard Test Method for Cellulosic Fiber Insulating Board.
  - 8. ASTM C272 Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.
  - 9. ASTM C1396 Standard Specification for Gypsum Wallboard.
  - 10. ASTM C518 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
  - 11. ASTM C578 Standard Specification for Perlite Thermal Insulation Board.
  - 12. ASTM C728 Standard Test Methods for Fire Test of Roof Coverings.
  - 13. ASTM C1289 Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation.
  - 14. ASTM D5 Standard Test Method for Penetration of Bituminous Materials.



15. ASTM D36 Standard Test Method for Softening Point of Bitumen (Ring and Ball Apparatus).
16. ASTM D312 Standard Specification for Asphalt Used in Roofing.
17. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
18. ASTM D1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
19. ASTM D1622 Standard Test Method for Apparent Density of Rigid Cellular Plastics.
20. ASTM D1863 Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
21. ASTM D2126 Standard Test Method for Response off Rigid Cellular Plastics to Thermal Humid Aging.
22. ASTM D2178 Standard Specification for Asphalt Glass Felts used in Roofing and Waterproofing.
23. ASTM D4601 Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
24. 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.
- C. Insulation and other substrate materials shall be provided by the manufacturer of the roofing they are to be used with, and covered under the system warranty.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## 1.5 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 SUBSTRATE MATERIALS

#### A. Insulation

- 1. Provide thicknesses of insulation as indicated, provide combination of types and thicknesses to provide a complete system.

- 2. Rigid Polyisocyanurate Roof Insulation:

#### B. Thermal Insulation Properties and Approved Insulation Boards.

- 1. Flat Stock Polyisocyanurate Roof Insulation (for use as base layer); ASTM C1289:
  - a. Qualities: Factory Flat Stock, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers. For use as a base layer of insulation attached to metal, tectum or concrete roof deck .
  - b. Thickness: 2.7"
  - c. R-Value: 17 R +/-
  - d. Compliances: UL, WH or FM listed under Roofing Systems Federal Specification HH-I-1972, Class 1
- 2. Tapered Polyisocyanurate Roof Insulation; ASTM C1289:
  - a. Qualities: Factory Tapered, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers. For use where tectum roof deck with slurry topping has no slope
  - b. Thickness: Minimum 1.5"
  - c. Minimum R-Value: 9.4 / Average R-Value: 30+
  - d. Tapered Slope: 1/4"
  - e. Cricket Slope: 1/2"

- f. Compliances: UL, WH or FM listed under Roofing Systems Federal Specification HH-I-1972, Class 1
  - g. Acceptable Products:
    - 1) Carlisle
    - 2) VersicoCo.
    - 3) ENRGY 3; Johns Manville
    - 4) Approved Equivalent
- C. 1. R-Value: Tapered System (combined flat stock insulation base and tapered insulation)  
R-Value 30+
2. Board Size: 4' x 4'
- 2.2 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.
3. 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 at areas being fully reroofed.
- 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
  - 7. Fasteners: Corrosion resistant screw fastener as recommended by roof membrane manufacturer.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- (a) Factory Mutual Tested and Approved with three (3) inches coated disc for I-90 rating, length required to penetrate metal deck one inch.
- (b) to be used at spot replacement of wet insulation'

### PART 3 - EXECUTION

#### 3.1 INSPECTION OF SURFACES

- A. Roofing contractor shall be responsible for preparing an adequate substrate to receive insulation:
  - 1. Verify that work which penetrates roof deck has been completed.
  - 2. Verify that wood nailers are properly and securely installed.
  - 3. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.
  - 4. Do not proceed until defects are corrected.
  - 5. Do not apply insulation until substrate is sufficiently dry.
  - 6. Broom clean substrate immediately prior to application.
  - 7. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
  - 8. Verify that temporary roof has been completed.

#### 3.2 INSTALLATION

- A. Polyisocyanurate Attachment, Mechanically Fastened + Insulation Adhesive:
  - 1. Approved Polyisocyanurate insulation board shall be installed over prepared substrate into with mechanical fasteners on first layer, and high-rise insulation in subsequent layers. 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. Applying first layer directly to the substrate utilizing mechanical fasteners in the following fastening pattern per 8'x4' board:
    - (a) Zone 1 -16 fasteners
    - (b) Zone 2 – 24 fasteners
    - (c) Zone 3 – 32 fasteners
  - 3. Applying adhesive directly to the base layer in a ribbon pattern in 1/2" to 3/4" beads, using either the pail or an automatic applicator achieve proper coverage rates:  
Upper layers:
    - (d) Zone 1 - 12" OC in ribbon pattern per 4' x 4' board of insulation
    - (e) Zone 2 - 6" OC in ribbon pattern per 4' x 4' board of insulation
    - (f) Zone 3 - 4" OC in ribbon pattern per 4' x 4' board of insulation
    - (g) Edge Zone 16'

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.

### 3.3 CLEANING

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

END OF SECTION

SECTION 07 53 23  
ADHERED EPDM ELASTOMERIC MEMBRANE ROOFING

PART 1 - GENERAL

1.1 Description

- A. Furnish and install a weathertight and watertight adhered EPDM roof complete, in-place, per the drawings and specifications.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
  - 1. Provide all labor and material to complete the adhered non-reinforced EPDM membrane system, black, after removal of all existing roofing and insulation
  - 2. Flat and Tapered roof insulation
  - 3. Coverboard
  - 4. Membrane base flashing
  - 5. Walkway pads
  - 6. Flashing for roof drains, vent pipes, and all roof penetrations
  - 7. Furnish and installation of all requisite wood nailers, blocking, curbs, plywood
  - 8. All hoisting and scaffolding necessary to complete the work.
  - 9. Waste disposal
  - 10. System to provide a **20 -year labor and materials No Dollar Limit** warranty from the manufacturer to cover all roofing components, insulation, coverboard, and roof membrane. Warranty windspeed to be 72 mph.
- D. Related Work Specifications Elsewhere Includes:
  - 1. Section 06-10-00 - Roof Carpentry
  - 2. Section 07-62-00 - Flashing and Sheet Metal
  - 3. Section 07-92-13 - Joint Sealants

1.2 Quality Assurance

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. Comply with current specific edition or revision of an individual

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1. The NRCA Roofing and Waterproofing Manual, National Roofing Contractors Ass'n
  2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  3. ASTM Standards for materials
  4. ASCE 7-16 requirements for roof wind design
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work.
- C. Pre-Installation Roofing Conference – conducted at project site
1. Meeting to include Owner, Architect, Roofing Contractor Project Manager and foreman, Roofing System Manufacturer's Rep, and any other contractors whose work will interface with or affects roofing including plumbers, electricians, mechanical contractors, installers of roof accessories and roof-mounted equipment.
  2. Review start of work, including availability of all materials.
  3. Review sequencing of work, including interface with any other trades and Owner participation on removing/re-commissioning any mechanical, electrical, plumbing.
  4. Review any field conditions not covered by specification or detail.
  5. Discuss allowable hours of work, access to facility, and parking
  6. Discuss laydown area for materials, and locations for dumpsters
  7. Discuss any temporary protection requirements for the roofing system during and after installation

### 1.3 Performance Requirements

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7-10 and the Connecticut State Building Code.
  - 1. Ultimate Design Wind Speed: 130 mph.
  - 2. Risk Category: III
  - 3. Exposure Category: C.
- D. Exterior Fire -Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

#### 1.4 SUBMITTALS

- A. Approved Applicator: Submit evidence of contractor's status as an approved applicator of the EPDM. Roof Membrane System.
- B. Manufacturer's Warranty: The manufacturer shall provide the Owner with specimen copy of a 30 -year minimum written full system No Dollar Limit warranty, with 72 mph windspeed coverage for the entire roofing system. These must be submitted prior to award of contract. The original copy of this warranty shall be delivered to the Owner when the job is completed and the terms of the warranty are satisfied.
- C. Samples of roof membrane in color to be used.
- D. Installer Certificates: Signed by roofing system manufacturer certifying that roofing Contractor is an authorized/licensed Approved Applicator in good standing.
- E. Design Windspeed Confirmation: confirmation that proposed roof system will meet ASCE 7-16 design uplift requirements for building height/location/importance factor.
- F. Closeout Submittals: Manufacturer's maintenance guidelines for system installed.

#### 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Use all means necessary to protect roofing materials before, during and after installation and to protect the work of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Consultant and at no additional cost to the Owner.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



- B. All materials shall be delivered to the site in the original unopened packaging with legible manufacturer's identification and shall be stored in a fashion to provide continuous protection from damage and the weather.
- C. Carefully inspect all materials from suppliers when unloading and reject immediately any damaged or unsuitable materials.
- D. Adhesives shall be stored between 60oF and 80oF. If subject to lower or higher temperatures shall be returned to room temperature for three (3) days before use. Do not use materials damaged in handling or storage.
- E. Store membrane rolls on dunnage
- F. Store roof insulation and coverboard on dunnage, so not exposed to standing water. in addition to shrink-wrap provided for original shipping, all insulation should be stored under breathable tarps.
- G. Store all adhesives at manufacturer's published recommended temperatures. In cold weather, this may include provisions for storage in heated area or on-site hot box.

#### 1.6 WARRANTY

- A. Manufacturer's roof system warranty, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roof system that fail in materials or workmanship within the specified period.
  - 1. Warranty period: 20 years from date of substantial completion
  - 2. Warranty windspeed: 72 mph
  - 3. Increase warranty period: Add Alternate #1 increase roof warranty to 30 years from date of substantial completion.
- B. Special Project Warranty, signed by Installer, covering work of this Section including All components of the membrane roofing system such as roofing, base flashing, insulation, coverboards, vapor retarders, and roof edge/fascia.
  - 1. Warranty period: 2 years from date of substantial completion

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## PART TWO – PRODUCTS

### 2.1 General

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the membrane Manufacturer are to be purchased from a manufacturer-approved source.

### 2.2 Products Supplied by Roof Membrane Manufacturer

#### A. Roof Membrane

- 1. Non-reinforced 090 EPDM meets or exceeds the minimum requirements set forth by ASTM D4637, black color
- 2. Basis-of-Design Product: Carlisle Syntec Sure Seal EPDM being used as standard for design. Alternate manufacturers, with comparable products, subject to compliance with specified requirements, can also be considered from the following manufacturers.:
  - a. Versico Incorporated
  - b. Elevate, div. LaFarge Holcim Inc
  - c. Johns Manville

#### B. Base Flashing

- 1. 060 non-reinforced black field sheet

#### C. Roof Edge/Fascia Flashing.

- 1. Sure-Seal Pressure Sensitive Overlayment Flashing by Carlisle SynTec Incorporated

#### D. Obstructed pipes, scuppers, pitch pans, and other irregularly shaped penetrations

- 1. Sure-Seal Uncured EPDM Elastoform Flashing by Carlisle SynTec Incorporated

#### E. Inside and outside corners

- 1. Sure-Seal Inside/Outside Corner by Carlisle SynTec Incorporated.

#### F. Unobstructed pipes, vent pipes

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1. Sure-Seal Pressure-Sensitive Pipe Flashing by Carlisle SynTec Incorporated.
- G. Splice system, field sheets and flashing.
1. Seam Cleaner -- Weathered Membrane Cleaner by Carlisle SynTec Incorporated
  2. Seam Primer – Low VOC Primer by Carlisle SynTec Incorporated
  3. Seam Tape – 6” SecurTape, min 25 mil butyl installed with primer sheets with thin factory substrate adhesive will not be accepted to make splices at field seams, end laps, or flashing details
- H. Bonding Adhesive for field membrane and flashings.
1. CAV-GRIP III Bonding Adhesive/Primer by Carlisle SynTec Incorporated
- I. Bedding Mastic, roof drains and top edges of base flashings,
1. Water Cut-Off Mastic by Carlisle SynTec Incorporated
- J. Pitch pan system for “ganged” penetrations
1. One Part Pourable Sealer by Carlisle SynTec Incorporated
  2. Pressure Sensitive Sealant Pocket by Carlisle SynTec
- K. Base Securement for roof membrane at angle changes
1. Sure-Seal Pressure-Sensitive RUSS by Carlisle SynTec Incorporated
- L. Insulation and Membrane Fasteners – metal decks
1. Corrosion-resistant, self-tapping, self-drilling #14 screw with low profile head Meeting FM 4470 requirements.
  2. Fastening accessories shall be approved FM Global.
  3. Approved Products
    - a. HP Fastener by Carlisle SynTec Incorporated
    - b. Sure Seal Insulation Plates, 3” dia, galvalume
    - c. HP Polymer Seam Plate, 2” dia. for membrane securement to metal deck
    - d. Seam Fastening Plate, 2” dia galvalume for membrane securement @ flashing
- M. Termination bars are shown on the drawings, they shall be minimum 1/8" x 1" extruded aluminum, with caulk lip as required.

Roof Replacement for  
Robert J. O’Brien Elementary School  
East Hartford, CT

1. Termination Bar by Carlisle SynTec Incorporated
- N. Exposed sealant joints at termination bars and roof-related sheet metal
1. Carlisle Universal Single Ply Sealant
- O. Walk pads where shown on the drawings, they shall be 30" x 30" rubber pads supplied by the Manufacturer, adhered to roof membrane with pressure sensitive seam tape.
1. 30" x 30" x 3/16" Molded Walkway Pad by Carlisle SynTec Incorporated
- P. Roof Insulation: furnished by membrane manufacturer, 20 psi compressive polyisocyanurate foam insulation conforming to ASTM C1289, Type II, Class 1, Grade 2 equal to Carlisle Insulbase.
1. structurally sloped areas, two layers 2.5" thick
  2. tapered insulation for crickets to be 1/2" per foot slope
  3. Insulation average R value will exceed 30R.
- Q. Coverboard: furnished by membrane manufacturer, 100 psi compressive polyisocyanurate foam conforming to ASTM C1289, Type II, Class 4, Grade 1 (109 psi max.)
1. 1/2" Carlisle SecurShield HD

### PART THREE – EXECUTION

#### 3.1 Description

- A. The latest Manufacturer specifications and installation techniques are to be followed with the following requirements. These specific minimum requirements must be included in bid and are not to be altered.

#### 3.2 Inspection

- A. Examine the areas and conditions under which work in this section will be installed. correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 3.3 Substrate Requirements

- A. Surfaces scheduled to receive roofing are to be free of any water, frost, snow, debris.
- B. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- C. All required nailers shall be securely installed prior to roofing.
- D. Do not proceed with the installation when surface temperatures are less than 25°F without submitting special cold weather instructions from the membrane manufacturer. Propellant in cylinders must be kept above 70°F for the product to spray properly. Utilize power-heated blankets and hot boxes when necessary. Cylinder temperatures should stay below 110°F.

### 3.4 Installation – General

- A. Perform all related work specified elsewhere necessary for the installation of the specified membrane system.
- B. Ensure that fasteners do not penetrate conduit or other miscellaneous items on the underside of the roof deck.
- C. Certain combinations of temperature and humidity may cause condensation on the surface of solvent-based products. If this condition occurs, do not mate the surfaces. When the ambient air-conditions no longer cause condensation, apply additional material and proceed.
- D. All surfaces scheduled to receive membrane or flashing must be free of contact with any bituminous surfaces, clean, and smooth.

### 3.5 Installation of Insulation and Coverboard

- A. Roof Insulation
  - 1. Cut and lay-out insulation to avoid board-to-board gaps, and gaps at perimeter walls, parapets, penetrations.
  - 2. Offset joints of insulation min. 6” o.c., vertically and horizontally
  - 3. Mechanically fasten the roof insulation layers from top down with approved threaded fasteners and 3” dia. insulation plates at rate of (16) per 4x8 board all areas of the roof, plus any perimeter or corner enhancements needed to meet design uplift Pressures for each roof area as calculated via ASCE 7-16

Roof Replacement for  
Robert J. O’Brien Elementary School  
East Hartford, CT

B. Coverboard

1. Adhere coverboard to mechanically fastened insulation substrate with low rise foam adhesive, applied in serpentine beads spaced at max 6" o.c. all areas of roof, plus any perimeter or corner enhancements needed to meet design uplift pressures for each roof area as calculated via ASCE 7-16
2. Coverboard to be walked in, then temporarily weighted down to prevent cupping or lifting of adhered board while adhesive is setting up. Weighted buckets should be used, specially purposed for this task.

3.5 Installation of Roofing Membrane

- A. Unroll and position roofing membrane, without stretching, over the approved substrate. membrane laps shall be installed in a shingled manner in the direction of drainage. Allow roof membrane to relax a minimum of 30 minutes before seaming or attaching to substrate. As ambient air temperatures decrease, relaxation time shall increase.
- B. Sweep and/or blow-off the mating surfaces to remove contaminants.
- C. Apply adhesive in an even coat to both mating surfaces, keeping the spray tip approximately 12" away and perpendicular to the surface during spray. Avoid high thickness buildup that can skin over, trap solvent, and create a blister. Spray substrate and back of the membrane with enough overlap to ensure 100% coverage. Do not apply adhesive to splice areas
- D. Allow heavy areas of adhesive buildup to flash-off until it does not transfer to your finger when touched and pushed. Limit application of adhesive to surfaces that will be covered with membrane the same day.
- E. Solvent flash-off can lower the surface temperature below the dew point causing moisture to form on the adhesive. Slide your hand across the flashed-off adhesive on the insulation or cover board to ensure moisture has evaporated and the adhesive surface is dry and tacky prior to installing the membrane.
- F. Mate the membrane to the adhesive-coated substrate while avoiding wrinkles. Immediately brush down the bonded portion of the sheet with a soft-bristle push broom, and then roll the membrane with a weighted segmented roller to achieve maximum contact

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- G. Overlap each successive sheet at side laps and all end laps the width of the seam tape being used. Sheets shall be spliced so that the splice is not less than 5.5" for 6" tape
- I. All seams shall be cleaned prior to seaming. Change cleaning pads and membrane cleaner often.
- J. After required seam cleaning, apply seam primer and allow to dry.
- K. After primer has dried, sheets may be mated at the laps or flashing. Peel release plastic and allow upper sheet to fall onto splice tape. Immediately roll seam with 2" silicon roller.
- L. On a daily basis, seams shall be checked for voids or other deficiencies, repairs made, and lap seam sealant applied where required.
- M. All T-joints at factory seams and field-formed seams shall be covered with 6" diameter, self-adhering, uncured EPDM patches, overlaid with 12" x 12" uncured EPDM patch.
- N. Repair all cuts, punctures, wrinkles within 18" of seams, or wrinkles running toward seams. All wrinkles shall be cut out and patched. Seam cleaner, seam primer, semi-cured self-adhering EPDM, and lap sealant shall be used for all repairs. All cuts and punctures shall be repaired the same day they are discovered.
- O. For cold weather application procedures, refer to the Manufacturer's specifications for additional requirements.

### 3.6 Membrane Securement

- A. Securement shall be provided at all roof perimeters, curbs, pipes, changes in plane >3" per foot, and other locations as shown on the detail drawings.
- B. Securement shall be achieved as follows:
  - 1. Concealed Reinforced Membrane Strips
    - a. Install 6" wide reinforced membrane strip along base of flashing substrate and fasten with seam plates or batten strips and the specified fasteners to the roof deck or vertically into the substrate. Fastener spacing and orientation shall be as shown on the drawings.
  - 2. For horizontal attachment, the reinforced strip must be positioned a minimum 1/8" to a maximum of 1" away from the angle change.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

3. For vertical attachment, the reinforced strip must be attached to the vertical substrate and must extend a minimum of 3" onto the horizontal substrate/insulation.
  - a. Adjacent sections of the reinforced strip shall not be overlapped. Gaps between adjacent sections shall not exceed 1".
  - b. Clean and prime the underside of the membrane prior to removing release paper from integral seam tape.
  - c. To splice the membrane to the reinforced strip, follow standard splicing procedures.
  - d. At the base of the angle change, all upturned membrane (flashing) seams shall be covered with a 6" x 6" self-adhering, uncured EPDM patch.
4. At roof edges, membrane shall be turned down over the roof edge and onto the wall below the bottom nailer. The membrane shall be secured with the specified metal edge system.

### 3.7 Flashings

- A. Flashings shall be constructed and terminated as per the detail drawings. The specified water cutoff mastic shall be applied behind the top edges of the flashings. The top edges of flashings shall be fastened per the Manufacturer's requirements at a minimum, unless superseded by the detail drawings.
- B. Cured, reinforced EPDM membrane shall be used for base flashings, wherever possible.
- C. All flashings shall be 8" minimum in height above the field membrane.
- D. Metal shall be flashed using self-adhering, semi-cured EPDM, as recommended by the Manufacturer.
- E. Uncured EPDM flashing shall be used at scuppers, pitch pans, vent pipes, and other irregularly shaped penetrations.
- F. Pre-manufactured, self-adhering, EPDM pipe boots shall be used in lieu of field wrapping of pipes wherever possible.
- G. All base flashings shall be totally bonded to the substrate. Loose, wrinkled, or poorly Bonded flashings will not be accepted.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



- H. Flashing seams shall be constructed by cleaning and priming the seam areas and installing 6" minimum splice tape.

### 3.8 Pitch Pans

- A. Prior approval from the Owner's Representative is required for pitch pan use at any location.
- B. Prime interior of pitch pan and penetration with polyurethane primer.
- C. Fill lower portion of pitch pan with concrete and allow top to dry. Fill top 2" with an acceptable pourable sealer.

### 3.9 Roof Walkways

- A. Walkways and walk pads shall be installed in a neat, orderly fashion, and where indicated on roof plan or in specifications.
- B. Install walk pads with 2" gap between pads to allow for drainage.
- C. Walk pads shall be adhered to the membrane with seam tape per Manufacturer's recommendations

### 3.10 Temporary Water Cutoffs

- A. Temporary water cutoffs are to be constructed at the end of each working day to protect the insulation, roofing, building, and building interior from damage due to wind, snow, and rain.
- B. Contractor shall provide methods and materials compatible with the membrane, to provide a positively adhered weather and watertight seal, capable of withstanding inclement weather and ponded water.
- C. Construction of temporary water cutoffs is to be detailed by the Contractor and approved by the Manufacturer and the Owner's Representative.
- D. Temporary water cutoffs and contaminated membrane shall be neatly trimmed and removed at the start of the next workday.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 07 55 00  
MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 specification Sections, apply to this section.

1.2 SUMMARY

- A. Section includes cold applied 2-Ply low VOC asphalt roofing associated accessories, edge treatment and roof penetration flashings.
- B. Related Sections: The following sections contain requirements that relate to this section.
  - 1. Section 06 10 00 Rough Carpentry
  - 2. Section 07 62 00 Sheet Metal Flashing and Trim
  - 3. Section 07 92 13 Joint Sealants

1.3 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 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- E. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- F. ASTM D 2178 Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
- G. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- H. ASTM D 4601 Standard Specification for Asphalt Coated Glass Fiber Base Sheet Used in Roofing.
- I. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- J. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- K. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- L. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- M. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- N. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- O. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- P. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- Q. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- R. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- S. UL - Fire Resistance Directory.
- T. FM Approvals - Roof Coverings and/or RoofNav assembly database.

#### 1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Exterior Fire Test Exposure: Roof system shall achieve a UL, FM or WH Class rating for roof slopes indicated on the Drawings as follows:
  - 1. Factory Mutual Class A Rating.
  - 2. Underwriters Laboratory Class A Rating.
- C. 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.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
  - 2) Importance Category:
    - a) III.
  - 3) Importance Factor of:
    - a) 1
  - 4) Wind Speed: 126 mph
  - 5) Ultimate Pullout Value: 456 pounds per each of the fastener
  - 6) Exposure Category:
    - a) C.
  - 7) Design Roof Height: 24 feet.
  - 8) Minimum Building Width: 228 feet.
  - 9) Roof Pitch: 1/4 :12".
  - 10) Roof Area Design Uplift Pressure: Steel Deck Sections
    - a) Zone 1 - Field of roof 43.7 psf
    - b) Zone 2 - Eaves, ridges, hips and rakes 55.4 psf
    - c) Zone 3 - Corners 72.8 psf
  - 11) Roof Area Design Uplift Pressure: Concrete Deck Sections
    - 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
  - 12) Roof Area Design Uplift Pressure: Tectum Deck Sections
    - a) Zone 1 - Field of roof 43.7 psf
    - b) Zone 2 - Eaves, ridges, hips and rakes 55.4 psf
    - c) Zone 3 - Corners 72.8 psf
2. Snow Load: 30 psf.
  3. Live Load: 20 psf, or not to exceed original building design.
  4. Dead Load:
    - a. Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.

D. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.

E. Roof system shall have been tested in compliance with the following codes and test requirements:

1. NRCA
2. FM Approvals:
  - a. RoofNav Website

## 1.5 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- 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.
  - 4. Performance data.
- 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 CT 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 Site Supervision Letter: Certify that site supervision shall be provided by roofing manufacturer representative on a basis 3 (Three) times per week minimum during the duration of the project. Weekly progress reports, complete with pictures and descriptions of that week's work, shall be submitted to the Owner and Architect at the end of each week during the duration of the project. Failure to submit letter will result in an immediate rejection of the submittal.
- H. Manufacturer's Certificate: Certify 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.
- I. 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.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- J. Yearly Roof Inspections: Provide a letter stating yearly roof inspections be made at no additional cost to the Owner, shall be provided for the life of the warranty, inspection reports shall be provided for Owner's records. Any deficiencies in the roof coating shall be corrected at no additional cost to the Owner (labor and material). Failure to submit letter will result in an immediate rejection of the submittal.
- K. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- L. Manufacturer's Fire Compliance Certificate: Certify that the roof system furnished is approved by Factory Mutual (FM), Underwriters Laboratories (UL) or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
- M. 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.

#### 1.6 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 twenty four years of documented experience and must not have been in Chapter 11 bankruptcy during the last ten years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Manufactures 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.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- 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.

#### 1.7 PRE-INSTALLATION MEETINGS

- 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.

#### 1.8 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.
- 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.

1.9 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. Upon completion of the work, provide the Manufacturer's written and signed Edge-To-Edge NDL System Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installer, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition including Manufacturers Metal Components.
  - 1. Warranty Period:
    - a. 20 years from date of acceptance – Add Alternate #2.
    - b. Increase warranty period: Add Alternate #3 increase roof warranty to 30 years from date of substantial completion.
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
  - 1. Warranty Period:
    - a. 2 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers: The Garland Company or Pre-Approved Equal
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 33 00.
- C. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



1. Bidder will not be allowed to change materials after the bid opening date.
2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Architect/ Owner for approval prior to acceptance.
3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
  - a. Personally, investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
  - b. Will provide the same guarantee for substitution as for the product and method specified.
  - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
  - d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
  - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
  - f. Will reimburse the Owner for all redesign cost by the Architect for accommodation of the substitution.
4. 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.
5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for manufacturer substitution.

## 2.2 COLD APPLIED 2-PLY LOW VOC ASPHALT ROOFING

- A. Nailable Base Sheet—Tectum Deck Only: One ply fastened to the deck per wind uplift calculations.
- B. SA Vapor Retarder—Concrete Deck Only:
- C. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive
- D. Modified Cap (Ply) Sheet: One ply bonded to the prepared substrate with interplay adhesive with heat-welded seams.
- E. Interply Adhesive: (Layer 1 and 2 at 2.5 Gal/Sq. Min.)

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- F. Flashing Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive
- G. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive
- H. Flashing Ply Adhesive: (Flashing Layers 1 and 2 at 4-6 Gal/Sq. Min.)

### 2.3 ACCESSORIES:

- A. Vapor Retarder: TECTUM DECK ONLY--HPR Base Sheet, Asphalt-coated, inorganic fiberglass base sheets used in cold-applied modified roof systems. Base sheet shall be rot proof and will not wick or absorb moisture, within the roof assembly. Shingle in direction of slope of roof to shed water on each area of roof.
  - 1. Tensile Strength, ASTM D 146
    - a. MD 100 lbf./in. (17.5 kN/m)
    - b. XD 80 lbf./in. (14.0 kN/m)
- B. Vapor Retarder: HPR Glasfelts, Concrete Deck Only: inorganic asphalt impregnated felts conforming to ASTM D 2178. Install self-adhering sheets to cleaned and primed deck, shingled uniformly to achieve a seamless membrane over the substrate. Shingle in direction of slope of roof to shed water on each area of roof.
  - a. Tensile Strength, ASTM D 2178
  - b. MD 44 lbf/in (7.7 kN/m) XD 44 lbf/in (7.7 kN/m)
- C. Urethane Sealant Hybrid - One-part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
  - 1. Tensile Strength, ASTM D 412: 250 psi
  - 2. Elongation, ASTM D 412: 450%
  - 3. Hardness, Shore A ASTM C 920: 35
  - 4. Adhesion-in-Peel, ASTM C 92: 30 pli
- D. Sealant - Structural Adhesive: Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
  - 1. Elongation, ASTM D 412: 300%
  - 2. Hardness, Shore A, ASTM C 920: 50
  - 3. Shear Strength, ASTM D 1002: 300 psi
- E. Pitch Pocket Sealer - 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
  - 1. Durometer, ASTM D 2240: 40-50 Shore
  - 2. Elongation, ASTM D 412: 250%

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

3. Tensile Strength, ASTM D 412: 200 @ 100 mil

F. Glass Fiber Cant - Glass Cant: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended by the membrane manufacturer.

#### 2.4 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

A. Pre-Manufactured Edge Metal: Flash-less Snap-On Fascia Cover and Splice Plate.

1. Aluminum, ASTM B209, alloy 3105-H14, in thickness of .040" nom.

B. Pre-Manufactured Edge Metal Finishes:

1. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, as shipped from the mill

2. Exposed surfaces for coated panels:

a. Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer. Weathering finish as referred by National Coil Coaters Association (NCCA). Provided with the following properties.

1) Pencil Hardness: ASTM D3363, HB-H / NCCA II-2.

2) Bend: ASTM D-4145, O-T / NCCA II-19

3) Cross-Hatch Adhesion: ASTM D3359, no loss of adhesion

4) Gloss (60 deg. angle): ASTM D523, 25+/-5%

5) Reverse Bend: ASTM D2794, no cracking or loss of adhesion

6) Nominal Thickness: ASTM D1005

a) Primer: 0.2 mils

b) Topcoat, 0.7 mils min

c) Clear Coat (optional, only used with 22 ga. steel) 0.3 mils

7) Color: Provide as specified. (Subject to minimum quantities)

C. Flashing Boot - Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended by the membrane manufacturer.

D. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight.

E. Drain Flashings should be 4lb (1.8kg) sheet lead or polyvinyl butyral (PVB) foil formed and rolled.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- F. Plumbing stacks should be 4lb (1.8kg) sheet lead or Pre-Manufactured polyvinyl butyral (PVB) foil boots formed and rolled.
- G. Liquid Flashing - An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
  - 1. Tensile Strength, ASTM D 412: 400 psi
  - 2. Elongation, ASTM D 412: 300%
  - 3. Density @77 deg. F 8.5 lb/gal typical
- H. Manufactured Roof Specialties: Shop fabricated copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07 62 00.
  - 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.
- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
  - 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
  - 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
  - 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
  5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
  6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
  7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Metal Deck: Metal deck shall be installed as specified in Section
1. Fastening of the deck should comply with the anticipated live and dead loads pertaining to the building as well as applicable Code.
  2. Steel decks shall be minimum 22-gauge factory galvanized or zinc alloy coated for protection against corrosion.
  3. Suitable insulation shall be mechanically attached as recommended by the insulation manufacturer.
  4. Decks shall comply with the gauge and span requirements in the current Factory Mutual FM Approval Guide and be installed in accordance with Loss Prevention Data Sheet 1-28 or specific FM approval.
  5. When re-roofing over steel decks, surface corrosion shall be removed, and repairs to severely corroded areas made. Loose or inadequately secured decking shall be fastened, and irreparable or otherwise defective decking shall be replaced.
- C. Wood Deck:
1. Dimensional wood deck shall be minimum 1 inch (25 mm) thick, knotholes and cracks larger than 1/4 inch shall be covered with sheet metal. All boards shall be appropriately nailed and have adequate end bearing to the centers of beams/rafters. Lumber shall be kiln dried.
  2. Plywood shall be a minimum 15/32 inch (11.9 mm) thick and conform to the standards and installation requirements of the American Plywood Association (APA).
  3. If no roof insulation is specified, provide a suitable dry sheathing paper, followed by an approved base sheet nailed appropriately for the specified roof system, with 1 inch (25 mm) diameter caps and annular nails unless otherwise required by the applicable Code or Approval agency.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

4. Insulation is to be mechanically attached in accordance with the insulation manufacturer's recommendations unless otherwise required by the applicable Code.
5. In all retrofit roof applications, it is required that deck be inspected for defects. Any defects are to be corrected per the deck manufacturer's recommendations and standards of the APA/Engineered Wood Association prior to new roof application.
6. The wood deck shall be covered with one ply of a heavy roofing Base Sheet, extending 2 inches to 6 inches (51 mm to 152 mm) beyond the cants in all directions. Nail in place before applying the rest of the roofing system.

D. Tectum Deck

1. Protect decks from the weather during storage and application. Any wet or deformed decking shall be removed and replaced.
2. Cementitious wood fiber decks shall not be installed over high humidity occupancies.
3. Cementitious wood fiber decks shall have a minimum design load as recommended by the deck manufacturer.
4. Anchor cementitious wood fiber deck panels against uplift and lateral movement.
5. Install deck level. Correct or replace deck with any deflection, irregularities, or otherwise damaged panels.
6. Install a mechanically attached base sheet prior to installation of insulation or roofing membrane.

### 3.3 INSTALLATION - GENERAL

- A. Install modified bitumen 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

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

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

#### 3.4 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 Interply Adhesive: 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. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2-1/2 gallons per 100 square feet.
  - 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
  - 4. Install subsequent rolls of modified across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
  - 5. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
  - 6. Install base flashing ply to all perimeter and projection details.
  - 7. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Modified Cap Ply(s): Cut cap ply sheets into 18-foot lengths and allow plies to relax before installing. Install in interply adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plys specified. 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. Solidly bond to the base layers with specified cold adhesive at the rate of 2-1/2 gallons per 100 square feet.
  - 3. Roll must push a puddle of adhesive in front of it. Care should be taken to eliminate air entrapment under the membrane.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

4. Install subsequent rolls of modified across the roof as above with a minimum of 4-inch side laps and 8-inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
  5. Allow cold adhesive to set for 5 to 10 minutes before installing the top layer of modified membrane.
  6. Heat weld all membrane lap seams with industry standard blown hot-air welders.
    - a. Robotic welder standard: Leister Bitumat B2 or equivalent.
      - 1) 4" Welding nozzle Min.
    - b. Handheld welder standard: Leister Electron ST or equivalent.
      - 1) Wide nozzle (Assorted)
  7. Extend membrane 2 inches beyond top edge of all cants in full moppings of the cold adhesive as shown on the Drawings.
- 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 076200. 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 Base Ply: Install flashing sheets by the same application method used for the base ply.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



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. Adhere to the underlying base ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
4. Solidly adhere the entire flashing ply to the substrate. Secure the tops of all flashings that are not run up and over curb through termination bar fastened at 6 inches (152 mm) O.C. and sealed at top.
5. Seal all vertical laps of flashing ply with a three-course application of trowel-grade mastic and fiberglass mesh.
6. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
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. 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. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. 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.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

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.

### 3.5 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

#### A. Pre-Manufactured Flash-less Snap-On Metal Edge System:

1. Position base ply of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations. Cap sheet shall stop at the edge of the roof and shall not turn over the edge of the nailer.
2. Prior to installing the base anchor, assure a level plane is present. If not, shim the roof edge surface as required.
3. Extruded base anchor: Apply two 1/4" beads of Sealant on the bottom surface of the top flange of the extruded anchor.
4. Set the extruded anchor on the edge and face fasten through pre-punched slots every 18 inches o.c. for 5.75 inch face fascia, and 18 inches o.c. staggered for any fascia size greater than 5.75 inches. Begin fastening 6 inches from ends.
5. Install Sealant at the ends of the base frame to prevent water from running between base anchor joints.
6. Install compression seals every 40 inches on center in the slots located at the top of the extruded anchor.
7. Install fascia cover setting the top flange over the top flange and compression seals of the base anchor. Assure compression seals are in place during this process. Beginning on one end and working towards the opposite end, press downward firmly (do not rotate) until "snap" occurs and cover is engaged along entire length of miter.
8. Install splice plate at each end of the base anchor and fascia cover prior to the installation of the next adjacent ten foot piece.

#### B. Raised Metal Edge:

1. Inspect the nailer to assure proper attachment and configuration.
2. Run one ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
3. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
4. 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.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

5. Prime metal edge at a rate of 100 square feet per gallon and allow to dry.
6. 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.
7. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof.

C. Reglet Mounted Counterflashing:

1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. 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.
6. Cut reglet in masonry one joint above flashing.
7. Secure reglet counterflashing with expansion fasteners and caulk reglet opening.

D. Exhaust Fan:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## E. Roof Drain:

1. Plug drain to prevent debris from entering plumbing.
2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
3. Run roof system plies over drain. Cut out plies inside drain bowl.
4. Set lead/copper flashing (30 inch square minimum) in 1/4 inch bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
5. Install base flashing ply (40 inch square minimum) in bitumen.
6. Install modified membrane (48 inch square minimum) in bitumen.
7. Install clamping ring and assure that all plies are under the clamping ring.
8. Remove drain plug and install strainer.

## F. Plumbing Stack:

1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. 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 base flashing ply in bitumen.
5. Install membrane in bitumen.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.

## G. Heat Stack:

1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. 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 base flashing ply in bitumen.
5. Install modified membrane in bitumen.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Install new collar over cape. Weld collar or install stainless steel draw brand.

## H. Pitch Pocket with Umbrella:

1. Run all plies up to the penetration.
2. Place the pitch pocket over the penetration and prime all flanges.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

3. Strip in flange of pitch pocket with one ply of base flashing ply. Extend 6 inches (152 mm) onto field of roof.
4. Install second layer of modified membrane extending 9 inches (228 mm) onto field of the roof.
5. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
6. Caulk joint between roof system and pitch pocket with roof cement.
7. Place a water shedding type bonnet over the top of the pitch pocket and clamp the top with a drawband collar. Caulk the upper edge of the band with an elastomeric sealant.

I. Liquid Flashing:

1. Mask target area on roof membrane with tape.
2. Clean all non-porous areas with isopropyl alcohol.
3. Apply 32 wet mil base coat of liquid flashing over masked area.
4. Embed polyester reinforcement fabric into the base coat of the liquid flashing.
5. Apply 48-64 wet mil top coat of the liquid flashing material over the fabric extending 2 inches (51 mm) past the scrim in all directions.
6. Apply minerals immediately or allow the liquid flashing material to cure 15-30 days and then install reflective coating.

### 3.6 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.

### 3.7 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.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

### 3.8 FIELD QUALITY CONTROL

- A. Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
- B. Inspection: When the project is in progress, the roofing system manufacturer will provide the following: Provide a final inspection upon completion of the Work.
  - 1. Report progress and quality of the work as observed.
  - 2. Provide job site inspections (Minimum three-times per week), at no additional cost to the building Owner or contractor, by a full-time employee of the roofing system manufacturer. The project inspector must possess field and technical experience with the roof system manufacturer. Roof system manufacturer must provide a written letter, signed by a corporate officer, that the required inspector meets the above referenced criteria.
  - 3. Provide weekly inspection and progress reports to the Owner and Architect. Progress reports must include digital photographic documentation and a summary of the daily work progress. Progress reports must be made available to the Owner via a password secure on-line database
  - 4. Warranty shall be issued upon manufacturer's acceptance of the installation.
  - 5. Field observations shall be performed by a Sales Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
  - 6. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
  - 7. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.
- C. Perform field inspection and testing as required by the specifications and Architect.
- D. Contractor to correct defects or irregularities discovered during field inspection.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 3.9 SCHEDULES

#### A. System (Ply) Sheets: Field and Flashing

1. VB (Ply) Sheet—Tectum Deck Only: Nailable single ply 55 mil heavy duty double coated HPR Type II fiberglass sheet mechanically attached over any organic deck areas. ASTM D4601; as recommended and furnished by the modified membrane manufacturer.
  - a. Tensile Strength, ASTM D 146
    - 1) MD 100 lbf./in. (17.5 kN/m)
    - 2) XD 80 lbf./in. (14.0 kN/m)
2. Vapor Retarder: HPR Glassfelts, Concrete Deck Only: inorganic asphalt impregnated felts conforming to ASTM D 2178. Install self-adhering sheets to cleaned and primed deck, shingled uniformly to achieve a seamless membrane over the substrate. Shingle in direction of slope of roof to shed water on each area of roof.
  - a. Tensile Strength, ASTM D 2178
  - b. MD 44 lbf/in (7.7 kN/m) XD 44 lbf/in (7.7 kN/m)
3. Base (Ply) Sheet: 80 mil SBS rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
  - a. Tensile Strength, ASTM D 5147
    - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
    - 2) 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
  - b. Tear Strength, ASTM D 5147
    - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
    - 2) 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
  - c. Elongation at Maximum Tensile, ASTM D 5147
    - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
    - 2) 50mm/min @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
  - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F (-40 deg. C)
4. Thermoplastic/Modified Cap (Ply) Sheet:  
155 mil SBS (Styrene-Butadiene-Styrene) rubber modified membrane incorporating post-consumer recycled rubber, fire retardant additives and reinforced with a fiberglass and polyester composite scrim. Surfaced with the highly reflective Sunburst white mineral. ASTM D 6162, Type III Grade G

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- a. Tensile Strength, ASTM D 5147
    - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
    - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
  - b. Tear Strength, ASTM D 5147
    - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
    - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N
  - c. Elongation at Maximum Tensile, ASTM D 5147
    - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 8.0% XD 8.0%
    - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8.0% XD 8.0%
  - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34 deg. C)
  - e. Reflectivity, ASTM C 1549: 72%
  - f. Manufactured in USA
  - g. Weight/roll: 90 lbs
  - h. Recycled content:
    - 1) Pre-consumer: 11%
    - 2) Post-consumer: 0.3%
- B. Interply Adhesive:
1. Rubberized polymer modified cold process asphalt roofing bitumen V.O.C. compliant ASTM D 3019. Performance Requirements:
    - a. Non-Volatile Content ASTM D 4479 70%
    - b. Density ASTM D1475 8.9 lbs./gal.
    - c. Viscosity Stormer ASTM D562 400-500 grams
    - d. Flash Point ASTM D 93 100 deg. F min. (37 deg. C)
    - e. Slope: up to 3:12
- C. Flashing Ply Adhesive:
1. Cold process asphalt-based, brush grade flashing adhesive.
    - a. Non-Volatile Content ASTM D 4479 70 min.
    - b. Density ASTM D 1475 8.6 lbs./gal. (1kg/l)
    - c. Flash Point ASTM D 93 100 deg. F (37 deg. C)
- D. Surfacing:
1. Field and Flashing Cap (Ply) Sheet:
    - a. Mineral surfaced rubber modified roofing membrane with fire retardant characteristics and reinforced with a dual fiberglass scrim and polyester scrim.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

07 55 00 -23

Modified Bituminous Membrane  
Roofing – Add Alternate #1



SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Provide all labor, equipment, and materials to fabricate and install the following.

- 1. Edge strip and flashing.
- 2. Fascia, scuppers, and trim.
- 3. Expansion joint and area divider covers.
- 4. Fascia and edge metal.

- B. Related Sections:

- 1. Section 06 10 00 - Rough Carpentry
- 2. Section 07 52 00 - Modified Bituminous Membrane Roofing
- 3. Section 07 92 13 - Joint Sealants

1.3 REFERENCES

- A. ASTM A-446 Specification for steel sheet
- B. ASTM B-209 Specification for aluminum sheet
- C. ASTM B-221 Specification for aluminum extruded shape
- D. FS QQ-L-201 Specification for Lead Sheet
- E. ASTM A792 Steel Sheet, Aluminum-Zinc Alloy-Coated, by the Hot-Dip Process

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- F. ASTM B32 Solder Metal
- G. ASTM B209 Aluminum and Alloy Sheet and Plate
- H. ASTM B486 Paste Solder
- I. ASTM D226 Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- J. ASTM D486 Asphalt Roof Cement, Asbestos-free
- K. FS O-F-506 Flux, Soldering, Paste and Liquid
- L. FM Loss Prevention Data Sheet
- M. NRCA National Roofing Contractors Association - Roofing Manual
- N. SMACNA Architectural Sheet Metal Manual

#### 1.4 SUBMITTALS

##### A. Product Data:

1. Provide manufacturer's specification data sheets for each product.
2. Metal material characteristics and installation recommendations.
3. Color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.

##### B. Samples: submit two samples, 12 x 12 inch in size illustrating typical external corner, internal corner, valley, junction to vertical dissimilar surface, material and finish.

##### C. Shop Drawings:

1. For manufactured and shop fabricated gravel stops, fascia, scuppers, and all other sheet metal fabrications.
2. Shop drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, terminations and installation details.
3. Indicate type, gauge and finish of metal.

##### D. Certification:

1. Submit roof manufacturer's certification that pre-fabricated perimeter system furnished is acceptable to roof manufacturer.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
3. Provide approval letters from metal manufacturer for use of their metal within this particular roofing system type.
4. Submit certification that metal and fastening system furnished is Tested and Approved by Factory Mutual for 1-90 Wind Up-Lift Requirements.

#### 1.5 QUALITY CONTROL

##### A. Reference Standards:

1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.
2. Factory Mutual Loss Prevention Data Sheet windstorm resistance 1-90.

#### 1.6 QUALITY ASSURANCE

- A. Engage an experienced metal roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years experience.
- B. Successful contractor is required to maintain a full-time supervisor/foreman who is on the job-site at all times during installation of the new roof perimeter flashing. Foreman must have a minimum of five (5) years experience with the installation of similar system to that specified.
- C. Successful contractor must obtain all components of roof system from a single manufacturer including any roll good materials, if required. Any secondary products that are required, which cannot be supplied by the specified membrane manufacturer, must be recommended and approved in writing by the primary manufacturer prior to bidding.
- D. If required, fabricator/installer shall submit work experience and evidence of adequate financial responsibility. The owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials, which may cause discoloration or staining.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

1.8 JOB CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal edge system.

1.9 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal expansion and contraction:

- 1. Completed metal edge flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

1.10 WARRANTY

- A. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Flashless Edge Metal & Fascia, Coping Cap & Gutters:

- 1. Aluminum, 3105-H14 alloy, smooth as ASTM B 209, .040 thickness
- 2. Miscellaneous Metals and Flashings:
  - (a) 20oz. Lead Coated Copper.

2.2 RELATED MATERIALS

- A. Metal Primer: Zinc chromate type.
- B. Plastic Cement: ASTM D 4586.
- C. Sealant: Specified on drawings.
- D. Lead: Meets Federal Specification QQ-L-201, Grade B, four pounds per square foot.
- E. Solder: ANSI/ASTM B32; 95/05 type.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- F. Flux: FS O-F-506.
- G. Underlayment: ASTM D2178, No15 asphalt saturated roofing felt.
- H. Slip Sheet: Rosin sized building paper.
- I. Fasteners:
  - 1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
  - 2. Fastening shall conform to Factory Mutual 1-90 requirements or as stated on section details, whichever is more stringent.
- J. Termination Bars:
  - 1. Shall be aluminum unless otherwise recommended by membrane manufacturers.
  - 2. Material shall be .125" x 1" (minimum) aluminum conforming to ASTM B-221, mill finish. Bar shall have caulk cup as required.

### PART 3 - EXECUTION

#### 3.1 PROTECTION

- A. Dissimilar metals shall not be allowed to come in contact with each other. Isolate any dissimilar metals, masonry or concrete, from metals using bituminous paint, tape, or slip sheet. Use gasketed fasteners where required to prevent corrosive actions.

#### 3.2 GENERAL

- A. Fascia and copings shall be secured to wood nailers at the bottom edge with a continuous cleat.
- B. Fastening of metal to walls and wood blocking shall comply with SMACNA Architectural Sheet Metal Manual, Factory Mutual I-75 wind uplift specifications and/or manufacturer's recommendations whichever is of the highest standard.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
- D. Allow sufficient clearances for expansion and contraction of linear metal components. Secure metal using continuous cleats, clips and fasteners as required by the system. No exposed face fastening shall be accepted.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 3.3 INSPECTION

- A. Verify curbs are solidly set and nailing strips located.
- B. Beginning of installation means acceptance of existing conditions.
- C. Field measure site conditions prior to fabricating work.
- D. Edge metal installation shall not disrupt other trades. Verify that substrate is dry, clean and free of foreign matter.

### 3.4 MANUFACTURED SHEET METAL SYSTEMS

- A. Confirm that the edge metal systems are in general conformance with roof manufacturer's recommendations.
- B. Furnish and install manufactured edge metal systems in strict accordance with manufacturer's printed instructions.
- C. Provide all factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc.

### 3.5 SHOP FABRICATED SHEET METAL

- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
- B. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices, from templates made on site.
- C. Hem exposed edges.
- D. Angle bottom edges of exposed vertical surfaces to form drip.
- E. All corners for sheet metal shall be lapped with adjoining pieces fastened and set in sealant.
- F. Joints for gravel stop fascia system, cap flashing, and surface-mount counterflashing shall be formed with a 1/4" opening between sections. The opening shall be covered by a cover plate or backed by an internal drainage plate formed to the profile of fascia piece. The cover plate shall be embedded in mastic, fastened through the opening between the sections and loose locked to the drip edges.
- G. Install sheet metal to comply with Architectural Sheet Metal manual, Sheet Metal and Air Conditioning Contractor's National Associations, Inc.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 3.6 FLASHING MEMBRANE INSTALLATION

#### A. COPING CAP

1. Copings shall be provided with factory fabricated welded watertight coping accessories such as miters, transitions, end caps, etc. and finished to match coping system.
2. Accessories: Joint covers, corners, supports, strip flashing at joinings, fastening, and other accessories shall be included.
3. Install continuous cleat fasten 6" O.C.

#### B. CURB DETAIL/AIR HANDLING STATION

1. Counterflashing shall be provided with watertight accessories such as miters, transitions, end caps, etc. and finished to match.
2. Accessories: Joint covers, corners, fasteners, strip flashing at joinings, fastening, and other accessories shall be included.
3. Install pre-manufactured expansion joint cover. Fasten sides 8" O.C. with fasteners and neoprene washers.
4. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

#### C. EXPANSION JOINT

1. Expansion Joint shall be provided with watertight accessories such as miters, transitions, end caps, etc. and finished to match.
2. Accessories: Joint covers, corners, fasteners, strip flashing at joinings, fastening, and other accessories shall be included.
3. Install compressible insulation in neoprene cradle.
4. Install fabricated 0.040" expansion joint cover. Fasten sides 12" O.C. with fasteners and neoprene washers.
5. All joint cover laps will have butyl tape in between metal covers.

#### D. ROOF DRAIN

1. Prime membrane at a rate of 100 square feet per gallon and allow to dry.
2. Set lead/copper flashing (30" square minimum) in a 1/4" bed of mastic.
3. Install clamping ring and strainer assure all plies are under the clamping ring.

#### E. PLUMBING STACK

1. Prime membrane and sleeve at a rate of 100 square feet per gallon and allow to dry.
2. Install properly sized sleeves in a 1/4" bed of elastomeric sealant.
3. Turn sleeve a minimum of 1" down inside of stack.
4. Caulk intersection of the membrane and flange with elastomeric sealant.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

F. HEAT STACK

1. Prime membrane and sleeve at a rate of 100 square feet per gallon and allow to dry.
2. Install properly sized sleeves in a 1/4" bed of elastomeric sealant.
3. Install new collar over cape. Weld collar or install stainless steel draw band.
4. Caulk intersection of the membrane and flange with elastomeric sealant.

END OF SECTION



SECTION 07 72 33  
ROOF HATCH

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this section.

1.2 SUMMARY

- A. Section includes prefabricated roof hatches, operable hardware, and Counter flashings.
- B. Related Sections: The following sections contain requirements that relate to this section.
  - 1. Section 07 53 23 Adhered EPDM Elastomeric Membrane Roofing
  - 2. Section 07 55 00 Modified Bituminous Membrane Roofing – Add Alt #1
  - 3. Section 07 62 00 Sheet Metal Flashing and Trim

1.3 QUALITY ASSURANCE

- A. Qualifications of installers: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of the work of this section.

1.4 SUBMITTALS

- A. Product Data: Submit data on unit construction, sizes, configuration, jointing methods and locations when applicable, and attachment method.
- B. Submit manufacturer's recommended installation procedures.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

## 1.5 WARRANTY

- A. Provide five (5) year manufacture's warranty against all defects in material and workmanship.

## PART 2 PRODUCTS

### 2.1 ROOF HATCHES

- A. The basis of design shall be The Bilco Comapny, Type E roof scuttle or equal.

### 2.2 COMPONENTS

- A. Product Description: Shop fabricated roof hatches operating hardware equal to Bilco
  - 1. Type "E" Roof Scuttle: Unit 3'-0" x 3'-0" size, single leaf type; listed by UL.  
One (1) roof hatch located in supply room.
- B. Integral Aluminum Curb: Aluminum with rigid foam insulation; integral cap flashing to receive roof flashing; extended flange for mounting.
- C. Cover: Aluminum; foam insulation; sandwiched by aluminum interior liner; continuous neoprene gasket to provide weatherproof seal.
- D. Safety Post: Ladder UP Safety Post attached at the two top rungs of the existing ladder.
- E. Hardware:
  - 1. Compression spring operator and shock absorbers.
  - 2. Steel manual pull handle for interior operation; padlock hasp.
  - 3. Steel hold open arm with vinyl covered grip handle for easy release.
  - 4. Hinges: Manufacturer's recommended type for specific type of hatch.
- F. Hatch Railing System:
  - 1. As manufactured by the roof hatch supplier. Equal to Bilco Bil-Guard 2.0 Hatch Railing System.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

2. Post and rails shall be 1-1/4" schedule 40 pipe in 6061 T6 aluminum alloy.
3. Curb mounting brackets and tear drop brackets are 6063 T5 aluminum alloy.
4. Locking mechanism shall be cast aluminum and spring hinges and all fasteners are type 316 stainless steel.
5. Hatch rail system shall meet OSHA 29 CFR 1910.23 and all OSHA strength requirements.

### 2.3 FABRICATION

- A. Fabricate components free of visual distortion or defects. Weld corners and joints.
- B. Fit components for weather tight assembly.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install curb assembly, fastening securely to roof decking. Flash curb assembly into roof system.
- B. Place roof hatch and secure to curb assembly. Install integral setting sealant and counterflashing as required.
- C. Coordinate with installation of roofing system and related flashings for weather tight installation.
- D. Apply bituminous paint on surfaces of units in contact with cementitious materials or dissimilar metals.

END OF SECTION

SECTION 07 92 13  
JOINT SEALERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section includes surface preparation, joint sealing, sealants and joint backing.
- B. Related Sections: The following sections contain requirements that relate to this section.
  - 1. Section 07 53 23 - Adhered EPDM Elastomeric Membrane Roofing
  - 2. Section 07 55 00 - Modified Bituminous Membrane Roofing - Add Alt #1
  - 3. Section 07 62 00 - Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. American Society for Testing and Materials, ASTM.
  - 1. ASTM C920 Specification for Elastomeric Joint Sealants.

1.4 SUBMITTALS

- A. Product Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.
- B. Provide sample installation on site for Architect's inspection and approval.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- C. Certificates: Upon completion of work, furnish written statement signed by the Contractor, applicator, and manufacturer stating sealant application complies with drawings, specifications, and manufacturer's recommendations and was proper and adequate for conditions requiring sealant.

#### 1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver sealants and related accessories in factory sealed, unopened containers bearing manufacturer's name, batch number, and product designation.
- B. Storage: Store in unopened containers. Follow manufacturer's recommendations for storage temperature and shelf life.
- C. Handling: Follow manufacturer's recommendations for handling product containing toxic materials. Keep flammable materials away from heat, sparks, and open flame. Use recommended solvents and cleaning agents for cleaning tools, equipment, and skin.

#### 1.6 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

#### 1.7 PROTECTION

- A. Use masking tape where required to control lap of materials on adjacent surfaces and remove upon completion.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

- A. General
  - 1. Sealant systems shall be compatible with contacting surfaces and premolded joint fillers.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

2. Sealant systems shall not stain adjacent exposed surfaces.
3. Manufacturer's standard color range shall permit matching sealants to color of contacting surfaces.

## 2.2 MANUFACTURER

- A. All sealants and accessory parts shall be as manufactured by Pecora Corp.
- B. Substitutions: As approved by Architect

## 2.3 MATERIALS:

- A. General
  1. Sealant systems shall be compatible with contacting surfaces and premolded joint filler.
  2. Sealant systems shall not stain adjacent exposed surfaces.
  3. Manufacturer's standard color range shall permit matching sealants to color of contacting surfaces
- B. ELASTOMERIC SEALANTS
  1. Sealant Type 1: Multi-component acrylic latex sealant; comply with ASTM C C-834-95: Pecora AC-20 + Silicone.
  2. Sealant Type 2: Two-part Polyurethane sealant; comply with Fed Spec TT-S-00227E, Class A, Type II: ASTM C-920, Type M, Grade NS, Class 25, Use M: Pecora Dynatrol II
  3. Sealant Type 3: One-part Medium-Modulus Silicone Building Sealant; comply with Fed Spec. TT-S-1543A; TT-s-230C Type II, Class A; CGSB 19-13.M82; ASTM C- 920, Class 25, Type S, Grade NS, use M: Pecora 895

## 2.4 ACCESSORIES

- A. Primers, sealers, surface conditioners and solvents: As recommended by sealant manufacturer to suit application. Sealants shall be non-staining. Solvents shall be residue free

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber; oversized 30 to 50 percent larger than joint width. Incompressible materials or acrylic-, asphalt-, oil-, or solvent containing materials will not be permitted.
- D. Bond Breaker: Polyethylene film, pressure sensitive tape recommended by sealant manufacturer to suit application.
- E. Rags: Dry cleaned white cotton.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Inspect joints and spaces to receive sealant and verify the following:
  - 1. Verify substrate surfaces and joint openings are ready to receive work.
  - 2. Verify surfaces are free from bituminous materials, from release agents, bond breakers, deleterious curing compounds, water repellants, or other surface treatments.
  - 3. Verify metallic surfaces are free from rust, mill, scale, coatings, oil and grease
  - 4. Verify removal of protective materials from aluminum surfaces.
  - 5. Verify concrete, plaster, or masonry surfaces have properly cured.
  - 6. Verify joints and spaces requiring sealing are at correct or normal width.
  - 7. Verify joint backing and release tapes are compatible with sealant.
- B. Do not start application until unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Cleaning
  - 1. Remove loose materials and foreign matter which might impair adhesion of sealant.
  - 2. Clean and prime joints.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

3. Perform preparation in accordance with ASTM C 1193.
  - B. Remove moisture.
  - C. Verify proper surface and ambient temperatures.
  - D. Primers.
    1. Make preliminary tests to insure primers will not stain exposed materials or deteriorate back up material.
    2. Prime surfaces immediately prior to sealing
    3. Prime concrete, stone, copper, steel and masonry surfaces before installing sealant.
  - E. In all other respects, prepare surfaces in accordance with manufacturer's recommendations.

### 3.3 INSTALLATION

- A. Perform installation in accordance with ASTM C 1193.
- B. Perform acoustical sealant application work in accordance with ASTM C 919.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker where joint backing is not used, or where required to confine adhesion of sealant to surface materials.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.



G. Tooling:

- 1. Using tooling agent recommended by sealant manufacturer. Neatly tool joints to compress material, improve adhesion to surfaces joined, and achieve slightly concave surface.
- 2. Repair air pockets exposed by tooling.
- 3. Use masking tape where required to facilitate tooling and remove upon completion.

3.4 APPLICATION, PENETRATION SEAL

- A. Installation: Comply with the manufacturer’s written instructions to properly form and dam penetration openings to produce a tight foamed in place penetration seal. After curing inspect for tightness of seal. Make necessary repairs.
- B. Provide penetration seals at mechanical and electrical duct, pipe and conduit penetrations through floor slabs.

3.5 PATCHING

- A. Patch or replace defective and damaged sealants as directed by the Architect.

3.6 CLEANING

- A. Clean adjacent surfaces soiled in applying sealants in accordance with sealant manufacturer’s recommendations.
- B. Remove wet material from adjacent surfaces before it has set.
- C. Do not use cleaning agents.

3.7 SCHEDULE

- A. Sealant Joints:
  - 1. Metal/metal joints: Sealant #2
  - 2. Masonry joints: Sealant #2
  - 3. Concrete joints: Sealant #2

Roof Replacement for  
 Robert J. O’Brien Elementary School  
 East Hartford, CT

September 5, 2023

043-0249 RR

- |                          |            |
|--------------------------|------------|
| 4. Glass/metal joints:   | Sealant #3 |
| 5. Metal/masonry joints: | Sealant #2 |
| 6. Metal/wood joints:    | Sealant #1 |

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

07 92 13 - 7

Joint Sealers

SECTION 21 11 00  
FACILITY WATER SERVICE PIPING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section includes installation the following plumbing specialties and accessories;
  - 1. Pipe and pipe fittings
  - 2. Pipe insulation
- B. Related Sections
  - 1. Section 07 27 00 – Roof and Deck Insulation
  - 2. Section 07 55 00 – Modified Bituminous Membrane Roofing
  - 3. Section 22 40 00 – Plumbing Fixtures

1.3 REFERENCES

- A. ANSI B31.9 – Building Service Piping
- B. ASME B16.1 – Cast Iron Pipe Flanges and Flanged Fittings Class 25, 125, 250 and 800
- C. ASME B16.3 – Malleable Iron Threaded Fittings
- D. ASME B16.4 – Cast Iron Threaded Fittings Class 125 and 250
- E. ASTM A72 – Cast Iron Soil Pipe and Fittings
- F. ASTM A536 – Ductile Iron Castings
- G. ASTM A888 – Hubless Cast Iron Soil Pipe and Fittings
- H. ASTM C564 – Rubber gaskets for cast Iron Soil Pipe Fittings
- I. ASTM C1540 – Heavy Duty Shielded Couplings Joining Hubless Cast Iron

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- J. ASTM D 1784 – Rigid PVC Vinyl Compounds
- K. ASTM D 1785 – PVC Plastic Pipe, Schedule 40
- M. ASTM D 2665 – PVC Drain, Waste, and Vent Pipe & Fittings
- N. CISPI 301 – Cast Iron Soil Pipe and Fittings for Hubless Cast Iron Sanitary Systems
- O. CISPI 310 – Joints for Hubless Cast Iron Sanitary Systems

1.4 SUBMITTALS

- A. Submit under provisions of Division 1.
  - i. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufactures catalog information.
  - ii. Manufacturer's Installation Instructions: Indicate assembly and support requirements.

1.5 PROJECT RECORD DOCUMENTS

- A. Record actual locations of equipment, cleanouts, etc.

1.6 OPERATION AND MAINTENANCE DATA

- A. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.7 QUALITY ASSURANCE

- A. All items of similar class shall be the products of the same manufacturer.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years documented experience.
- B. Installer: Company specializing in performing the work of this section with minimum five years documented experience.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site in manufacturer's original unopened containers or packages with labels intact.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. Accept equipment on site in original factory packaging. Inspect for damage.
- C. Provide temporary end caps and closures on pipe and fittings.

#### 1.10 WARRANTY

- A. Provide manufacturer's standard warranty for pipe, fittings and accessories.

### PART 2 PRODUCTS

#### 2.1 PIPING ABOVE GRADE

- A. Cast Iron Pipe: CISPI 310, hubless
  - 1. Fittings: Cast iron
  - 2. Joints: CISPI 310 neoprene gaskets and stainless steel clamp-and shield assemblies.
- B. PVC Schedule 40 Solid Wall Pipe and PVC DWV Fitting System.
  - 1. Fittings: Schedule 40 PVC

#### 2.2 UNIONS AND CONNECTIONS

- A. Provide manufactures instructions on joining pipe and maintain instructions/ manuals on site.

### PART 3 INSTALLATION

#### 3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.

#### 3.2 INSTALLTION

- A. Install in accordance with manufacturers instructions.
- B. Use fittings for all changes in direction and branch connections.
- C. Install exposed piping at right angles or parallel to building walls. Diagonal runs are not permitted unless expressly indicated.
- D. Conceal all pipe installations in walls, pipe chases, utility spaces, above ceilings, below grade or floors, unless indicated to be exposed to view.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- E. Fire Barrier Penetrations: Where pipes pass through fire rated walls , partitions, ceilings and floors, maintain fire rated integrity.
- F. Install piping with 1/32 inch per foot(1/4 percent) downward slope to drain point.
- G. Provide non-conducting dielectric connections wherever jointing dissimilar metals
- H. Route piping in orderly manner and maintain gradient.
- I. Install piping to conserve building space and not interfere with use of space.
- J. Group piping wherever practical at common elevations.
- K. Install piping to allow for expansion and contraction without stressing pipe/joints
- L. Provide clearance for installation of insulation and access to valves and fittings.
- M. Provide access where valves and fittings are not exposed.
- N. Where pipe support members are welded to structural building framing, scrape, brush, clean, and apply one coat of zinc rich primer to welding.
- O. Install bell and spigot pipe with bell end upstream.

### 3.3 APPLICATION

- A. Install unions downstream of valves and at equipment or apparatus connections.

### 3.4 ERECTION TOLERANCES

- A. Establish invert elevations, slopes for drainage at 1/4" to 1/8" per foot. Maintain gradient
- B. Slope water piping and arrange to drain at low points.

### 3.5 CLEANING AND FLUSHING

- A. Upon completion of work, all piping systems shall be flushed with water/liquid alkaline solution with emulsifying agents and detergents, to remove dirt, grease, grit, chips and foreign matter.
- B. Solutions for flushing shall be used in sufficient quantity to produce a velocity of a least 2.5 feet per second. Flushing shall continue until discharge solution shows no discoloration or evidence of foreign materials.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

### 3.6 TESTING

- A. All new piping systems installed and parts of existing piping systems which have been altered, extended or repaired under this contract shall be tested as directed by the local authority having jurisdiction and in accordance with the State of Connecticut Building Code.
- B. All new, altered, extended or replaced piping shall remain exposed until tested.
- C. At completion of tests, Contractor shall submit a written summary of the test to Owner.
- D. Any failed test will be repeated until all the requirements of this section and the Building Code are met.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 22 01 12  
TEMPORARY MECHANICAL DISCONNECTS AND RECONNECTS

PART I GENERAL

1.1 Related Documents

- A. The provisions of the Contract, the General Conditions, the Supplementary Conditions and other Division I Specification Sections, apply to the work in this section.

1.2 Work Included

- A. Temporarily remove roof mounted HVAC equipment, as required. Install wood blocking, curbs, sleepers, roofing and flashing as required, and reinstall equipment.

1.3 Special Provisions

- A. The Contractor shall employ mechanics proficient and/or licensed if applicable, in the trades involved.
- B. The Contractor shall disconnect mechanical equipment only when performing roofing work in the immediate area of the equipment.
- C. Each unit shall be fully operational immediately after reinstallation. Shut down time for each unit shall be limited to an eight (8) hour period unless otherwise agreed by Owner's Representative.
- D. Prior to commencing any disconnects, the Owner shall be given forty-eight (48) hours notice. Notification shall be through.

1.4 Testing

- A. Prior to commencing roof work, The Contractor shall test mechanical units in the presence of the Owner's Representative.
- B. Deficiencies in operation including unusual noises, will be noted in writing shall become a matter of record.
- C. Upon completion of the reinstallation of each unit, it shall be retested by the The Contractor at his expense.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT



- D. Any deficiencies which were not noted in the initial testing shall be corrected by The Contractor at his expense.

## PART II PRODUCTS

### 2.1 Replacement Parts

- A. Any replacement parts or additional materials needed due to changes in curb or Sleeper heights shall be as recommended by the manufacturer of the mechanical unit, or as required by governing codes, and shall match the existing materials as to type, size, thickness and quality.
- B. The Contractor shall be responsible to provide replacement parts as required at their own expense.

## PART III EXECUTION

### 3.1 Job Conditions

- A. After disconnection, move units a sufficient distance to permit the installation of roofing and flashing materials.
- B. After new roofing is installed, reinstall units as shown, modifying conduit and cable as necessary. Units are to be reinstalled immediately upon completion of new roofing installation at each area that existing units are in place.
- C. Provide plywood traffic ways for moving units. If mechanical contrivance of wheeled "A" frame-type hoists are used, plywood shall be placed under the equipment for its full route of movement. B Plywood shall be a minimum of 5/8" thick.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

SECTION 22 07 00  
PLUMBING INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section includes installation the following insulation and accessories;
  - 1. Piping insulation
  - 2. Jackets and accessories
- B. Related Sections
  - 1. Section 21 11 00 – Facility Water Service Piping

1.3 REFERENCES

- A. ASTM C177 – Steady State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot Plate Apparatus
- B. ASTM C195 – Mineral Fiber Thermal Insulating Cement.
- C. ASTM C335 – Steady State Heat Transfer Properties of Horizontal Pipe Insulation
- E. ASTM C449 – Mineral Fiber Hydraulic Setting Thermal Insulating & Finish Cement
- F. ASTM C518 – Steady State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- G. ASTM C533 – Calcium Silicate Block and Pipe Thermal Insulation
- H. ASTM C585 – Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System)
- I. ASTM C921 – Properties of Jacketing Materials for Thermal Insulation.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Haven, CT

- J. ASTM E84 – Surface Burning Characteristics of Building materials
- K. ASTM E96 – Water vapor Transmission of Materials
- M. ASTM E162 – Standard Test Method for Surface Flammability of Materials  
Using a Radiant Heat Energy Source

1.4 SUBMITTALS

- A. Submit under provisions of Division 1.
- A. Product Data: Provide product description, list of materials and thickness for each service, and location.
- B. Manufacturer's Installation Instructions: Indicate assembly and support requirements.

1.5 QUALITY ASSURANCE

- A. Materials: Flame spread/smoke developed rating of 25/50 or less in accordance with ASTM E84, NFPA 255, and UL 723.

1.6 QUALIFICATIONS

- A. Applicator: Company specializing in performing the work of this section with a minimum three years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site in manufacturer's original unopened containers or packages with labels intact.
- B. Deliver materials to site in original factory packaging, labeled with manufacturer's identification, including product density and thickness
- C. Protect insulation against dirt, water, chemical and mechanical damage.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures and conditions required by manufacturers adhesive, mastic, and insulation cements.
- B. Maintain temperature during and after installation for a minimum period of 24 hours.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Haven, CT

## PART 2 PRODUCTS

### 2.1 GLASS FIBER PIPING INSULATION

#### A. Manufacturer:

1. Johns/Manville Micro-Lok
2. Other acceptable manufacturers offering equivalent products:
  - a. Owens Corning
  - b. Certainteed Manson
  - c. Knauf

#### B. Insulation: ASTM C547 rigid molded, noncombustible.

1. 'K' value (SI 'k' value) ASTM C335, 0.25@ 75 deg F (0.036 @ 24 deg C)
2. Minimum Service Temperature: -20 degrees F (-28.9 degrees C)
3. Maximum Service Temperature: 850 degrees F (454 degree C)
4. Maximum Moisture Absorption: 0.2 percent by volume

#### C. Vapor Barrier Jacket:

1. White kraft paper reinforced with glass fiber yarn & bonded to aluminized film
2. Moisture vapor Permeability: ASTM E96; 0.02 perm-inches

#### D. Installation:

1. Secure seams with pressure sensitive tape closure and butt joints with minimum 3 inch wide tape of same material as vapor barrier jacket.

### 2.2 JACKETING

#### A. Polyvinyl Chloride (PCV) Plastic

1. Manufacturer: Johns/Manville, Zeston 2000 or approved equal.
2. Jacket: ASTM D1784, one-piece molded type fitting covers and sheets.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Haven, CT

- a. Minimum Service Temperature: 0 deg F (-18 deg C)
  - b. Maximum Service Temperature: 150 deg F (66 deg C)
  - c. Thickness: 10 mil (.26 mm)
  - d. Color: off-white
3. Installation:
    - a. Fittings and Valves: Factory precut inserts
    - b. Apply vapor retardant mastic to all seams and joints.
    - c. Secure all seams and joints with Zeston PVC Z-Tape.
- B. Canvas jacket: UL listed
1. fabric: ASTM C921, 6oz/sq yd (220 g/sq m), plain weave cotton treated with dilute fire retardant lagging adhesive compatible with insulation.
- C. Insulating Cement
1. Manufacturer: Rock Wool “One Shot” or approved equal.
  2. Jacket: ASTM C449, mineral wool/inorganic dry mix, non-combustible.
    - a. Maximum service temperature: 1200 deg F (649 deg C)
    - b. “K” value (SI “k” value): 1.12 at 400 deg F
    - c. Thickness: Same as adjoining piping.
  3. Installation:
    - a. One monolithic layer directly applied
    - b. Exterior finish shall be troweled for smooth paintable surface.

## PART 3 INSTALLATION

### 3.1 EXAMINATION

- A. Verify that pipe has been tested before applying insulation .
- B. Verify that surfaces are clean and dry, with foreign materials removed.

Roof Replacement for  
Robert J. O’Brien Elementary School  
East Haven, CT

### 3.2 INSTALLTION

- A. Install in accordance with manufacturers instructions.
- B. On exposed piping, locate insulation and cover seams in least visible locations
- C. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations.
- D. Inserts and Shields:
  - 1. Application: Piping 2 inches diameter or larger.
  - 2. Insert location: Between support shield and piping and under finish jacket.
  - 3. Insert Configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.
  - 4. Insert material: ASTM C640 cork, hydrous calcium silicate insulation or other heavy density insulating material suitable for planned temperature range.
- E. Finish insulation at supports, protrusions, and interruptions.

### 3.3 TOLERANCE

- A. substituted insulation materials shall provide thermal resistance within 10 percent normal conditions, as materials indicated.

### 3.4 GLASS FIBER INSULATION SCHEDULE

- A. All insulation shall be 1-1/2 inch thickness with appropriate jacket.

END OF SECTION

SECTION 22 40 00  
PLUMBING FIXTURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section includes installation the following plumbing specialties and accessories;
  - 1. Roof drains
  - 2. Downspout
- B. Related Sections
  - 1. Section 07 22 18 – Preparation for Re-roofing
  - 2. Section 07 27 00 – Roof and Deck Insulation
  - 3. Section 07 55 00 – Modified Bituminous Membrane Roofing

1.3 REFERENCES

- A. ANSI A112.21.2 - Roof Drains.

1.4 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Shop Drawings: Indicate dimensions, weights, and placement of openings and holes.
- C. Product Data: Provide component sizes, rough-in requirements, service sizes, capacities and finishes.
- D. Manufacturer's Installation Instructions: Indicate assembly and support requirements.

1.5 PROJECT RECORD DOCUMENTS

- A. Record actual locations of equipment, cleanouts, etc.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Haven, CT

1.6 OPERATION AND MAINTENANCE DATA

- A. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.7 QUALITY ASSURANCE

- A. All items of similar class shall be the products of the same manufacturer.
- B. Roof Drainage System
  - 1. Basis of design for this project is roof drains with downspout nozzles and parapet scupper sleeve as the secondary means of water drainage. This installation shall conform to all governing local and state codes.
  - 2. Roof drain manufacturer shall provide documentation certifying the proper location and placement of primary and overflow drainage system.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years documented experience.
- B. Installer: Company specializing in performing the work of this section with minimum five years documented experience.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site in manufacturer's original unopened containers or packages with labels intact.
- B. Accept equipment on site in original factory packaging. Inspect for damage.

1.10 WARRANTY

- A. Provide manufacturer's standard warranty roof drains, parapet roof drains, overflow nozzles and scupper sleeves.

PART 2 PRODUCTS

2.1 MANUFACTURERS

Specialties listed within this specification shall be as the manufactured by the following:

- 1. Josam
- 2. J R Smith
- 3. Zurn

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Haven, CT



## 2.2 ROOF DRAINS

- A. Roof Drains: ANSI A112.21.2, Jay R. Smith Mfg. Co. Series 1010, cast iron body, and dome cover, sump receiver, under deck clamp, flashing clamp and gravel stop.
- B. Roof Drains: ANSI A112.21.2, Jay R. Smith Mfg. Co. Series 1020, cast iron body, and dome cover, sump receiver, under deck clamp, flashing clamp and gravel stop.

## 2.3 PREPARATION

- A. Coordinate cutting and forming of roof and pre-cast wall construction to receive drains, downspout nozzles and parapet scupper sleeves.

## PART 3 INSTALLATION

### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Installation of Roof Drains in accordance with manufacturers instructions.
- C. All items of this section to be installed bay a licensed plumber with a minimum five years experience in the installation of rooftop plumbing accessories.

END OF SECTION

SECTION 26 01 12  
TEMPORARY ELECTRICAL DISCONNECTS AND RECONNECTS

PART I GENERAL

1.1 Related Documents

- A. The provisions of the Contract, the General Conditions, the Supplementary Conditions and other Division I Specification Sections, apply to the work in this section.

1.2 Work Included

- A. Temporarily disconnect electrical feed to each roof top HVAC unit and other necessary equipment including satellite antenna.
- B. Inspect and repair existing power lines.
- C. Fabrication, installation and flashing of equipment supports.
- D. Reconnection of electrical feed upon completion of new roofing and related sheet metal.

1.3 Special Provisions

- A. The Contractor shall employ mechanics licensed in the electrical trade.
- B. The Contractor shall disconnect electrical equipment or feeds only when performing roofing work in the immediate area of the equipment or feed.
- C. Each feed or unit shall be fully operational immediately after reinstallation. Shut down time for each unit shall be limited to an eight (8) hour period unless otherwise agreed by Owner's Representative.
- D. Prior to commencing any disconnects, the Owner shall be given forty-eight (48) hours notice. Notification shall be given through

1.4 Testing

- A. Prior to commencing roofing work, The Contractor shall test circuits in the presence of the Owner's Representative.

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT

- B. Deficiencies in operation will be noted in writing and shall become a matter of record.
- C. Upon completion of the reconnection of each item or circuit, it shall be retested by The Contractor in the presence of the Owner's Representative.
- D. Any deficiencies which were not noted in the initial testing shall be corrected by The Contractor at his expense.

## PART II PRODUCTS

### 2.1 Replacement Parts

- A. Any replacement parts or additional materials shall be as recommended by the manufacturer of the unit, or as required by governing codes, and shall match the existing materials as to type, size, thickness and quality.

## PART III EXECUTION

### 3.1 Job Conditions

- A. Do not disconnect electricity without permission of the Owner's representative.
- B. Disconnection shall be performed only after new roof and flashing materials are available to complete the operation.
- C. Locate penetrations in roof system such that tripping hazards are minimized.

END OF SECTION

Roof Replacement for  
Robert J. O'Brien Elementary School  
East Hartford, CT