

Project Manual

FOR

**PARTIAL ROOF REPLACEMENT
AT
PERLEY ELEMENTARY
SCHOOL
GEORGETOWN, MASSACHUSETTS**

GEORGETOWN PUBLIC SCHOOLS

100% Construction Documents

June 17, 2015

CBI Consulting Inc.

250 Dorchester Avenue

Boston, Massachusetts 02127

(617) 268-8977

Fax (617) 464-2971

cbi@cbiconsultinginc.com

CBI FILE NUMBER: 14147

**PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL**

OF PAGES

<u>TABLE OF CONTENTS</u>	2
--------------------------	---

SECTION

BIDDING DOCUMENTS

000500 - NOTICE TO BIDDERS, INCLUDING SUB -BIDDERS	2
001000 - INSTRUCTION TO BIDDERS	11
003000 - FORM FOR GENERAL BID	9
003200 - PREVAILING WAGE RATES	38
004200 - BID ACCEPTANCE FORM	1

CONTRACT DOCUMENTS

005000 - STANDARD FORM OF AGREEMENT	7
006100 - PERFORMANCE BOND AND PAYMENT BOND	7
006300 - APPLICATION AND CERTIFICATE FOR PAYMENT	1
006400 - CERTIFICATE OF SUBSTANTIAL COMPLETION	1
006500 - CERTIFICATE OF INSURANCE	1
006550 - CHANGE ORDER	1
006600 - GENERAL RELEASE AND WAIVER OF LIEN-GENERAL CONTRACTOR	1
007000 - GENERAL CONDITIONS	40
008510 - DRAWING LIST	1

TECHNICAL SPECIFICATIONS

DIVISION 01

GENERAL REQUIREMENTS

010100 - SUMMARY OF WORK	4
010200 - UNIT PRICES	2
010300 - SPECIAL PROJECT PROCEDURES	7
010400 - CONDUCT OF THE WORK	2
010900 - DEFINITIONS AND STANDARDS	2
013000 - SUBMITTALS	6
014000 - QUALITY CONTROL	2
015000 - TEMPORARY FACILITIES	5
015100 - PROTECTION	3
015200 - CLEANING UP	3
017000 - PROJECT CLOSEOUT	3
017200 - SURVEYS AND RECORD DRAWINGS	2

<u>DIVISION 02</u>	<u>SUBSURFACE INVESTIGATION & DEMOLITION</u>	
020700 - SELECTIVE DEMOLITION		5
020800 - ASBESTOS ABATEMENT		22
029010 - LANDSCAPING REPAIR		9
<u>DIVISION 04</u>	<u>MASONRY</u>	
042100 - BRICK MASONRY		7
<u>DIVISION 05</u>	<u>METALS</u>	
055100 - METAL LADDER		
<u>DIVISION 06</u>	<u>WOOD AND PLASTIC</u>	
061000 - ROUGH CARPENTRY		5
061053 - WOOD BLOCKING		3
<u>DIVISION 07</u>	<u>THERMAL AND MOISTURE PROTECTION</u>	
072200 - ROOF INSULATION		4
073150 - SLATE SHINGLES		10
075430 - PVC SHINGLE PLY ROOFING		26
076200 - SHEET METAL FLASHING AND TRIM		3
077200 - ROOF ACCESSORIES		5
077233 - ROOF HATCHES		5
079213 - SEALANTS AND CAULKING		3
<u>DIVISION 09</u>	<u>FINISHES</u>	
092550 - GYPSUM BOARD ASSEMBLIES		5
<u>DIVISION 15000</u>	<u>MECHANICAL</u>	
150100 - TEMPORARY MECHANICAL DISCONNECTS		2

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

BIDDING DOCUMENTS

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

**SECTION 000500
TOWN OF GEORGETOWN
GEORGETOWN PUBLIC SCHOOLS**

NOTICE TO BIDDERS (IFB)

**PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN, MASSACHUSETTS**

Your participation is invited with regard to the above referenced bid. In order for your submission to be considered responsive this original document must be delivered prior to the time and at the place indicated herein. The Georgetown Public Schools assumes no liability for bids mistakenly opened due to improperly labeled envelopes and will return same to the bidder without notice. (It is strongly suggested that bid documents sent via carriers other than first class mail should be placed in properly labeled and sealed envelopes prior to being placed in the carrier packaging in order to avoid premature opening.)

SEALED BIDS shall be received for the **Partial Roof Replacement at Perley Elementary School** 51 North Street, Georgetown, MA 01833, at the Superintendent of Schools' Office, 51 North Street, Georgetown, MA on behalf of the Awarding Authority, the Georgetown School Committee. Bids shall be received at the Superintendent's Office, 51 North Street, Georgetown, MA 01833, until 2:00 P.M. Wednesday, July 1, 2015 at which time and place will be publicly opened and read. Phone calls, telegrams, postmarks, etc. shall not be considered. Bids not submitted on original bid forms shall be deemed non-responsive. **Bid submissions must be made in a sealed envelope clearly marked, "Perley Elementary School Partial Roof Replacement - 2:00 P.M., Wednesday, July 1, 2015"**. The Georgetown Public Schools assumes no liability for bids mistakenly opened due to improperly labeled envelopes and will return same to bidder without notice.

A pre-bid walk-thru will be held for all interested bidders on Wednesday, June 24, 2015 at 9:00AM at the site. While attendance is not mandatory, it is strongly encouraged.

Specifications and bid forms may be obtained from the Town's Web Procurement Desk on the Town's web site at www.georgetownma.gov or at the Office of the Superintendent, Monday through Friday between 8:00 a.m. and 4:00 p.m. after 10:00 a.m. Wednesday, June 17, 2015. All plan holders must fill out the online form at www.goergetownma.gov's procurement page or the hard copy Sign Out Form at the Superintendent's office. A returnable deposit in the amount of \$75 will be required for hard copies, company checks will be accepted.

Wages are subject to minimum wage rates as per M.G.L. Chapter 149, Sections 26 to 27D, inclusive.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

A 5% bid bond is required with all bid submissions. The successful bidder will be required to submit a 100% payment bond and a 100% performance bond, upon execution of contract.

Bidders must be pre-qualified with the Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance in the category of work: Roofing, and must provide Certification of Eligibility and current Update Statement.

The Georgetown Public Schools reserves the right to reject any and all bids, in whole or in part, or waive minor informalities and to make awards in a manner deemed in the best interest of the School District as provided by M.G.L.

The Georgetown Public Schools is an Equal Opportunity Employer. Bids from Woman/Minority Business Enterprises are strongly encouraged.

Town of Georgetown
Georgetown Public Schools

Carol Jacobs
Superintendent

END OF SECTION

SECTION 001000 - INSTRUCTION TO BIDDERS

PART 1 - GENERAL

1.01 SCHEDULE OF DATES

- A. Deadline for advertisement for Bid in Central Register – Tuesday, June 9, 2015, 4:00 P.M.
- B. Advertisement appears in Central Register, June 17, 2015.
- C. Plans and Specifications will be available after 10:00 a.m. Wednesday June 17, 2015 and may be obtained from the Town's Web Procurement Desk on the Town's web site at www.georgetownma.gov or at the Office of the Superintendent, Monday through Friday between 8:00 a.m. and 4:00 p.m. All plan holders must fill out the online form at www.georgetownma.gov's procurement page or the hard copy Sign out Form at the Superintendent's office. Hard copies available at the Office of the Superintendent will require a \$75 refundable bid deposit in the form of a company check.
- D. Pre-bid walk-thru Wednesday, June 24, 2015 at 9:00 AM at the Perley Elementary School, 51 North Street, Georgetown, MA. Meet outside the front entrance.
- E. All questions and requests for interpretations must be submitted in writing by the Bidders until 5:00 PM Friday June 26, 2015.
- F. Addenda will be issued with interpretations as determined by the Architect. Addenda will be distributed based on the information filled out by the plan holders on the procurement page at www.georgetownma.gov or on the Sign out Form at the Superintendent's office. It is the responsibility of every bidder to conform addenda prior to submitting their bid.
- G. General Bids Deadline: 2:00 PM, Wednesday, July 1, 2015, in the Superintendent of Schools' Office, 51 North Street, Georgetown MA 01833, Attn: Carol Jacobs, Superintendent, where the bids will be publicly open and read.

1.02 BIDDING PROCEDURE

- A. Bids for the work are subject to the provisions of General Laws, Chapter 149, Sections 44A-44L inclusive, as amended. Regulations governing the bidding procedures as set forth in the above mentioned amended General Laws must be followed.

- B. In the event of any inconsistencies between any of the provisions of these Contract Documents and of the cited statute, anything herein to the contrary notwithstanding, the provisions of the said statute shall control.
- C. No General Bid received by the Awarding Authority after the time respectively established herein for the opening of General Bids will be considered, regardless of the cause for the delay in the receipt of any such bid.
- D. In an effort to promote greater use of recycled and environmentally preferable products and minimize waste, it is suggested that all bids submitted comply with the following guidelines:
 - 1. All copies should be printed double sided.
 - 2. All submittals and copies should be printed on recycled paper with a minimum of 20% post-consumer content.
 - 3. All proposals and copies should minimize or eliminate the use of non-recyclable, or reusable materials, such as plastic report covers, plastic dividers, vinyl sleeves and GBC binding. Three ringed binders, glued materials, paper clips and staples are acceptable.
 - 4. Vendors should submit materials in a format, which allows for easy removal and recycling of paper materials.
 - 5. Vendors are encouraged to use other products, which contain reduced content in their bid documents. Such products may include, but are not limited to, folders, binders, paper clips, diskettes, envelopes, boxes, etc.
 - 6. Unnecessary samples, attachments or documents not specifically requested, should not be submitted. Bidders should avoid superfluous use of paper, such as separate title sheets or chapter dividers.
- E. Where the word "signed" appears, it refers to the hand written signature of the individual authorized to execute the contract. Bids "signed" by any way other than described here will be considered non-responsive.
- F. The bid must be submitted on the original bid form, one duplicate copy is requested.

1.03 WITHDRAWAL OF BIDS

- A. The bid may be withdrawn or amended without prejudice between the time of submission and the time of opening. All bid amounts will be considered firm and may not be withdrawn for a period of no less than sixty (60) days from the date of opening, unless stated otherwise.

1.04 INTERPRETATION OF CONTRACT DOCUMENTS

- A. No oral interpretation will be made to any bidder. All questions or requests for interpretations must be made in writing to the Architect.
- B. Every interpretation made to a bidder will be in the form of an Addendum, to the drawings and/or specifications, which will be made available to all persons to whom Contract Documents have been issued.
- C. Failure of the Awarding Authority to send, or of any bidder to receive any such addendum shall not relieve any bidder from obligation under his bid as submitted.
- D. All such addenda shall become a part of the Contract Documents.

1.05 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- A. Each bidder shall visit the site of the proposed work and fully acquaint himself with conditions as they exist, and shall also thoroughly examine the Contract Documents. Failure of any bidder to visit the site and acquaint himself with the Contract Documents shall not relieve any bidder from any obligation with respect to his bid.
- B. By submitting a bid, the bidder agrees that the Contract Documents are adequate and that the required result can be produced. The successful bidder shall furnish any and all labor, materials, insurance, permits and all other items needed to produce the required result to the satisfaction of the Awarding Authority.
- C. The deadline for written questions regarding the Site will be Friday June 26, 2015 at 5:00 PM. All questions must be submitted in email form to Mike Anderson, Director of Buildings and Grounds for the Georgetown Public Schools at andersonm@georgetown.k12.ma.us.

1.06 BID SECURITY

- A. The General Contractor's bid must be accompanied by bid security in the amount of five percent (5%) of the bid and must be submitted in the sealed bid envelope unless otherwise stated.
- B. At the option of the bidder, the security may be bid bond, cash, certified, treasurer's or cashier's check issued by a responsible bank or trust company. No other type of bid security is acceptable.

Bid Bonds shall be issued by a Surety Company qualified to do business under the laws of the Commonwealth of Massachusetts.
- C. Certified, Treasurer's or Cashier's check shall be made payable to the Georgetown School Committee, Georgetown, Massachusetts.

- D. The bid security shall secure the execution of the Contract and the furnishing of a Performance and Payment Bond by the successful General Bidder.
- E. Should any General Bidder to whom an award is made fail to enter into a contract therefore within five (5) days, Saturdays, Sundays and Legal Holidays, excluded, after notice of award has been mailed to him or fail within such time to furnish a Performance Bond and also a Labor and Materials or Payment Bond as required, the amount so received from such General Bidder through his Bid Bond, Cash, Certified, Treasurer's or Cashier's check as bid deposit shall become the property of the Georgetown School Committee, Massachusetts as liquidated damages; provided that, the amount of the bid deposit which becomes the property of the Georgetown School Committee, Massachusetts shall not in any event exceed the difference between his bid price and the bid price of the next lowest responsible and eligible bidder; and provided further that, in case of death, disability, bona fide clerical error or mechanical error of a substantial nature, or other unforeseen circumstances affecting the General Bidder, his deposit shall be returned to him.

1.07 BID FORM

- A. General Bids shall be submitted on the "FORM FOR GENERAL BID" enclosed. Erasures or other changes must be explained or noted over the signature of the bidder.
- C. Bid forms must be completely filled in. Bids which are incomplete, conditional, or obscure, or which contain additions not called for will be rejected.
- D. General Bidders shall submit one set of executed bid forms to the Awarding Authority.

1.08 SUBMISSION OF BIDS AND BID SECURITIES

- A. Each bid submitted by a General Contractor shall be enclosed in a sealed envelope which shall be placed with the bid security in an outer envelope. The outer envelope shall be sealed and clearly marked as follows:

(Firm Name): _____
General Bid and Bid Security for:
Partial Roof Replacement At
Perley Elementary School
Georgetown, Massachusetts 01833

1.09 AWARD OF CONTRACT

- A. The Contract shall be awarded to the lowest responsible and eligible General Bidder on the basis of competitive bids in accordance with the procedure set forth

in the provision of Section 44B-44L inclusive, as amended or inserted, by Chapter 149 of the General Laws of the Commonwealth of Massachusetts.

- B. If the bidder selected as the General Contractor fails to perform his agreement to execute a contract in accordance with the terms of his General Bid, and furnish a Performance Bond and also a Labor and Materials or Payment Bond, as stated in his General Bid in accordance with Section 44F, an award shall be made to the next lowest responsible and eligible bidder.
- C. The words "lowest responsible and eligible bidder" shall be the bidder whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary to the faithful performance of the work and who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, on the work. Essential information in regard to such qualifications shall be submitted in such form as the Awarding Authority may require.
- D. Action on the award will be taken within twenty (20) days, Saturdays, Sundays and Legal Holidays excluded after the opening of the bids.
- E. The contractor agrees to commence work on the project after receipt of Notice to Proceed on or about August 24, 2015 and further agrees to complete the project by November 24, 2015.
- F. Only one (1) bid shall be awarded.
- G. The successful bidder agrees to execute a contract with the Georgetown Public Schools and provide insurance documents and any bonds required within ten (10) days after notification of award, unless stated otherwise. Failure or refusal to comply with this requirement may result in withdrawal of the bid award. In the event of bid award withdrawal, the District reserves the right to issue a new Invitation to Bid or award to the second low responsive and responsible bidder.
- H. It is the intention of the District not to award a contract for this work under this or any other bid if the bidder cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work and that he has sufficient capital and equipment to enable him to perform this class of work and that he has sufficient capital and equipment to enable him to prosecute the work successfully and to complete it within the time named in the contract; and the District reserves the right to reject this or any other bid or to award the contract as is deemed to be in the best interest of the District.

1.10 SECURITY FOR FAITHFUL PERFORMANCE

- A. The successful bidder must deliver to the Awarding Authority simultaneously with his delivery of the executed contract, an executed Performance Bond, and

also a Labor and Materials or Payment Bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of One Hundred Percent (100%) of the Contract Price, as surety for the faithful performance of his contract, and for the payment of all persons performing labor or furnishing materials in connections therewith. Said bonds shall provide that, if the General Contractor fails or refuses to complete the Contract, the Surety Company will be obligated to do so.

- B. Premiums are to be paid by the General Contractor, and are to be included in the Contract Price.

1.11 EQUAL OPPORTUNITY

- A. The Georgetown School Committee is an Equal Opportunity employer and will require compliance with the minority business enterprise plan (MBE) on file in the purchasing department

1.12 PRE-BID WALK-THRU

- A. Pre-bid walk-thru Wednesday, June 24, 2015 at 9:00 AM at the Perley Elementary School, 51 North Street, Georgetown, MA. Meet outside the front entrance.

1.13 CONTRACT DOCUMENTS

- A. The Awarding Authority will, upon deposit of \$100.00, furnish one complete set of Specifications and Plans for each person requesting the same. No partial sets of Contract Documents will be issued. Plans and Specifications must be returned in good condition within thirty days of the bid opening in order for the deposit to be returned. Plans will not be mailed.

1.14 EQUALITY

- A. Except where otherwise specifically provided to the contrary, the words "or equal" are hereby inserted immediately following the name or description of each article, assembly, system, or any component part thereof, in the Contract Documents. It is the contractor's responsibility to provide all the research and documentation that would prove a product or assembly is "equal". Failure to provide research or documentation does not alleviate the contractor's responsibility to meet the schedule.

1.15 TAX FREE NUMBER

- A. The Georgetown School Committee has a tax free number. This will be provided to the successful bidder.

1.16 SCHEDULE

- A. All work shall be substantially completed by November 24, 2015.
- B. The Contractor is advised that because of the bidding schedule, there is more than enough time to order all the material in advance of the work so that all the construction can occur between August 24, 2015 and November 24, 2015. Special notice is given that all the long lead time items can and must be ordered well in advance of site mobilization in order to meet the schedule. No exceptions will be made nor allowed if the contractor fails to properly plan the procurement of all items in advance of the work. Late fees will be imposed if the construction is not done on time.

1.17 LATE FEES

- A. If the work is not Substantially Complete by November 24, 2015, the contractor shall be charged a maximum of \$1,000 per calendar day to pay for consulting, testing fees, and temporary classroom space and to manage and arrange for the completion of the project. Late fees will be deducted from the Contract via Change Order.

1.18 WEEKLY JOB MEETINGS

- A. There will be a weekly job meeting at the site on the same agreed upon day and time to discuss and view the progress of the work and to answer questions. The Contractor's job superintendent and Project Manager shall attend each meeting.

1.19 PROJECT SUPERINTENDENT

- A. The Contractor shall provide the same person as Superintendent for the entire duration of the project. Failure to maintain the same person in this position shall result in a \$1,000 penalty (per incident) which shall cover the Architect's time to re-orient new personnel.

1.20 AWARD

- A. The awarding authority reserves the right to reject any or all bids, if it be in the public interest to do so, and to act upon the bids and make its award in any lawful manner.

1.21 MINIMUM WAGE SCHEDULE

- A. Bids shall be made on the basis of the Minimum Wage Schedule, as determined by the Commissioner of Labor and Industries, pursuant to the provision of Chapter 149, Section 26 to 27D inclusive, of the Massachusetts General Laws.

- B. All Bids shall be accompanied by the Bidder's Certification regarding payment of prevailing wage rates on the form included with the Form for General Bid.

1.22 CONFLICT OF INTEREST

- A. A bidder filing a proposal thereby certifies that the proposal is made in good faith, without fraud, collusion, or connection of any kind with any other bidder for the same work, and that the bidder is completing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm.

1.23 PROCEED ORDERS

- A. No bidder is to proceed without a proceed order as set out in the contract.

1.24 STAGING

- A. The General Contractor shall provide all the vertical access (which includes staging, vertical lifts, etc.) and hoisting for all the work of the Contract.

1.25 CONSTRUCTION BARRICADES

- A. The General Contractor shall provide all barricades to enclose the work area to prevent unauthorized access to the site.
 1. The barricades shall provide enough room for all construction activities to be performed while separated from pedestrians, students, and staff on site.
 2. Safety is the sole responsibility of the Contractor and any barricades necessary to protect the work and the public shall be provided.
 3. Provide entrance tunnel protection.

1.26 INSURANCE

- A. The contractor shall purchase and maintain, at his expense all insurance required by the Contract. Documents and all insurance required by the applicable laws of Massachusetts, including but not limited to, General Laws, Chapter 146, in connection with all hoisting equipment.
- B. Commercial General Liability Insurance - Contractor is to maintain Casualty Insurance as follows:

Commercial General Liability Insurance with an insurance company qualified to do business in the Commonwealth of Massachusetts and acceptable to the District, providing a limit of liability of not less than \$1,000,000 per occurrence and general aggregate. Such insurance is to include the following extension of coverage.

- 1.) Contractual Liability - \$1,000,000 per occurrence
- 2.) Premises Operation Liability - \$1,000,000 per occurrence
- 3.) Independent Contractors Liability - \$1,000.00 per occurrence
- 4.) Explosion, Collapse and Underground Property Damage - \$1,000,000 per occurrence
- 5.) Personal Liability - \$1,000,000 per occurrence
- 6.) Products Liability - \$1,000,000 per occurrence

C Automobile Liability Insurance with an Insurance Company qualified to do business in the Commonwealth of Massachusetts and acceptable to the Town providing a limit of liability not less than those specified below. Such insurance is to include claims arising out of vehicles owned by contractor, hired by contractor, or owned by others acting on behalf of or under the direction of the contractor.

- 1.) Bodily Injury Liability of not less than \$500,000 per accident, bodily injury and property damage combined

D Workmen's Compensation Insurance - The contractor shall furnish the District with certificates of insurance showing that all his/her employees who shall be connected with this work are protected under Workmen's Compensation Insurance Policies.

- 1.) Coverage A - Massachusetts
- 2.) Coverage B - \$500,000 per insuring agreement

E. Prior to the commencement of the work, contractor will cause to be delivered to the Superintendent's Office, Georgetown Public Schools, Certificates of Insurance evidencing the foregoing. The Certificates of Insurance are to provide that the Georgetown Public Schools in care of its Business Manager shall be given at least 30 days advance notice of cancellation, intent not to renew, or material change in coverage.

F. Bidder hereby agrees to save and hold the Georgetown Public Schools, its agents, servants, and employees harmless from any and all claims arising out of the activities of contractor, its agents, servants, employees, and invitee or subcontractors.

G. Georgetown School Committee, The Town of Georgetown and CBI Consulting Inc. shall be listed as Additional Insured with a Waiver of Subrogation on the insurance policy for this project.

1.27 SITE ACCESS

A. The General Contractor shall gain access to the site via routes approved by the Owner.

1. The General Contractor as part of the bid price will restore all roads, curbs, driveways, walks and grassed or landscaped areas damaged during construction.

1.28 CONSTRUCTION TRAILER

A. The General Contractor shall locate the construction trailer at locations approved by the Owner.

B. The General Contractor shall locate all on site stored or staged materials within the enclosed area designated by the Owner.

1.29 BUILDING PERMIT FEES

A. Building permit fees will be waived for this project.

1.30 AFFIRMATIVE ACTION

A. It is understood and agreed that it shall be a material breach of any contract resulting from this bid for the contractor to engage in any practice which shall violate any provision of Massachusetts General Laws, Chapter 151B, relative to discrimination in hiring, discharge, compensation, or terms, conditions or privileges of employment because of race, color, religion, sex, national origin, ancestry, age, sexual orientation or disability

1.31 COMPLETE BID FORMS

A. Please Note: Each bidder must fill in all the blanks on all the bid forms, even if the information is “zero dollars” or “not applicable”. Also, please acknowledge all Addenda even if they do not pertain to your trade.

1.32 SCHOOL CALENDAR

A. The school calendar for the year is attached.

1.33 COMPLIANCE WITH MASSACHUSETTS GENERAL LAWS

A. Before a contract may be executed by the City, the successful Bidder will be required, in accordance with the provisions of M.G.L. Chapter 62C, Section 49A, to execute and file with the City the following certificate:

B. “Pursuant to Massachusetts General Laws, Chapter 62C, Section 49A, I certify under the penalty of perjury that I, to the best of my knowledge and belief have filed all state tax returns and paid all the state taxes required under law.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

Signature of Individual or Corporate Name

By:

(Signature of Corporate Officer if applicable)

Title: _____

Social Security Number of Federal Identification Number _____

END OF SECTION

**Georgetown Public Schools
2015 - 2016 SCHOOL CALENDAR**

SEPTEMBER 15

M T W T F

Mon. Aug. 31
Teachers Return FULL PD Day **31** 1 2 3 4
Tues. Sept. 1 7 8 9 10 11
School Begins Gr. 1-12 14 15 16 17 18
Weds. Sept. 2 21 22 23 24 *25
Kindergarten Begins 28 29 30
Fri, 9/4, Mon. 9/7 (20)
Labor Day, No School all students
Sept. 10th
GMHS Open House Penn Brook Open House
Friday, Sept. 25
½ PD Day

OCTOBER 15

M T W T F

1 2
5 6 7 8 9
12 13 14 15 16
19 20 21 22 23
26 27 28 29 30
(20)

October 9
FULL PD Day

October 12
Columbus Day No School
All students

NOVEMBER 15

M T W T F

Nov. 11
Veteran's Day No School
All Students 2 3 4 5 6
Nov. 17 9 10 11 12 13
Middle & High School 16 *17 18 19 20
Early Release Parent 23 24 *25 26 27
Conference & Evening 30
Conferences 6PM-8PM
Nov. 18
Middle School Evening Conferences Only
November 26 & 27 Thanksgiving Holiday (18)

DECEMBER 15

M T W T F

1 2 *3 4
7 8 9 10 11
14 15 16 17 18
21 22 *23 24 25
28 29 30 31

December 3
Elementary Parent Conf.
Early Release & evening
Conferences 6PM-8PM

December 23
Early Release

Dec. 24-Jan. 3
Vacation, No School

JANUARY 16

M T W T F

January 1
No School
January 4 1
School Reopens 4 5 6 7 8
January 15 11 12 13 14 *15
1/2 PD Day 18 19 20 21 *22
January 18 25 26 27 28 29
MLK Jr. Day (no school) (19)

FEBRUARY 16

M T W T F

1 2 3 4 5
8 9 10 11 12
15 16 17 18 19
22 23 24 25 26
29 (16)

February 15
President's Day No School
February 16-19
Winter Vacation

MARCH 16

M T W T F

March 1
FULL PD Day
Presidential Primary 1 2 3 4
March 10 7 8 9 *10 11
Elem. Parent Conf. 14 15 16 17 18
Early Release & HS Evening 21 22 23 24 *25
Conferences Only 6PM-8PM 28 29 30 31
March 25
Good Friday Half Day (22)

APRIL 16

M T W T F

1
4 5 6 7 *8
11 12 13 14 15
18 19 20 21 22
25 26 27 28 29
(16)

April 8
½ PD Day
April 18
Patriot's Day No School
April 19-22
Spring Vacation

MAY 16

M T W T F

May 9
Town Election Day
FULL PD Day 2 3 4 5 6
*9 10 11 12 13
May 30 16 17 18 19 20
Memorial Day No School 23 24 25 26 27
June 1 30 31
Seniors Last Day (20)

JUNE 16

M T W T F

1 2 3
6 7 8 9 10
13 14 15 *16 17
20 21 22 *23 24
27 28 29 30
(12)

Saturday, June 4
Graduation
***June 16** Projected last day of
school for students if no snow
days 180 days: (half day)
*June 23rd with required 5
Additional days

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

SECTION 003000

FORM FOR GENERAL BID

**PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833**

July 1, 2015

Carol Jacobs, Superintendent
Superintendent of Schools' Office
51 North Street
Georgetown MA, 01833

Carol Jacobs,

A. Basic Price

The undersigned, having visited the site of the above project and having familiarized myself with the local conditions affecting the cost of the work and with the contract documents, including Amendments and Addenda Nos. _____, hereby proposes to furnish all labor, materials, tools, equipment, insurance, permits, taxes, and to do and lawfully perform all things as provided in the specifications, all in accordance with the contract documents, for the sum of:

_____ Dollars, \$ _____

B. UNIT PRICES

1. The payment shall be as indicated in the Contract Documents.
2. Prior to commencing removal or placement of materials set forth in the Contract Documents, the Contractor shall notify the Architect/Engineer in sufficient time to permit proper measurements to be taken on behalf of the Owner. Only quantities which have been approved in writing by the Architect/Engineer will be considered in the determination of adjustments to the Contract Sum.
3. Performance of Work which is not required under the Contract Documents or which is not authorized by Change Order, whether or not such Work item is set forth hereunder as a Unit Price item, shall not be considered cause for extra payment. The Contractor will be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Architect/Engineer.
4. The Unit Prices as requested herein shall include their pro rate share of all costs for general conditions, staging, access, demolition, disposal, insurance, permits, taxes, overhead, profit, bond, labor, materials, and equipment of every kind, for the Contractor and Subcontractors.
5. Schedule of Unit Prices

UNIT PRICE SCHEDULE

#	DESCRIPTION OF WORK	UNIT	BASE BID QUANTITY	REFERENCE DETAILS	ADD / DEDUCT PRICE (Insert only one number)
1	Tongue and Groove Wood Deck Replacement	SF	50		

*Indicates that the quantity listed is in addition to all the scope areas noted on the plans.

- C. The undersigned agrees that, if s/he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority

and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.

- D. The undersigned certifies that s/he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work and that s/he will comply fully with all laws and regulations applicable to awards made subject to section forty-four A.
- E. The undersigned as Bidder certifies that if this proposal is accepted, s/he will furnish to the Georgetown School Committee with the invoice for the material or equipment supplied two copies of any and all Material Safety Data Sheets applicable to such material or equipment, as required by M.G.L. Chapter 111F, so called "Right to Know Law".
- F. The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As under in this section, the work "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.
- G. Substantial Completion

Substantial Completion to be by November 24, 2015.

Sincerely,

(Bidder)

(Address of Bidder)

By:

(Title - Owner*, Partner*)

(Seal, if Corporation)

By:

(If Corporation - Name and Office)

* If the business owned by the individual or partnership is conducted under a trade or assumed name, a certified copy of doing business under an assumed name should be annexed.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

H. BIDDER'S CERTIFICATION REGARDING PAYMENT OF PREVAILING
WAGE RATES

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

DATED: _____ NAME OF BIDDER: _____

BY: _____

NAME: _____

TITLE: _____

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

I. CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this section the word 'person' shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.

Authorized Signature

Social Security Number or Federal
Identification Number

Legal Name of Business Entity (Please Print or Type)

Address: _____

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

J. STANDARD HOLD HARMLESS AND INDEMNITY CLAUSE FOR USE IN
LEASES, USE AGREEMENTS, PROCUREMENT CONTRACTS ETC.

_____, its officers and members all,

Legal Name of Bidder's Business Entity

through the signing of this document by an authorized party or agent, indemnify, hold harmless and defend the Town of Georgetown and its agents and employees from all suits and actions, including attorneys' fees and all costs of litigations and judgment of every name and description brought against the Town as a result of loss, damage or injury to person or property by reason of any act by _____, its agents, servants or employees.

Legal Name of bidder's Business Entity

Authorized Signature

Name and Title (Print or Type)

Date

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

K. CERTIFICATION TO PAYMENT OF TAXES BY CONTRACTOR

Pursuant to G.L. c. 62C, §49A, I hereby certify that _____
Legal Name of Bidder's Business Entity

has complied with all laws of the Commonwealth of Massachusetts relating to the
payment of taxes.

Signed under the penalties of perjury.

Authorized Signature

Name and Title (Print or Type)

Date

Acknowledgment of Principal, if a Corporation

State of _____)
:SS:
County of _____)

On this _____ day of _____ 20__

before me personally came _____ to me known, who, being by me duly sworn, did depose and say that he/she resides

at _____, that he/she is the _____ of _____ the corporation described herein and which executed the foregoing instrument; that he/she knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he/she signed his/her name thereto by like order.

(Notary Public)

Acknowledgment of Principal, if a Partnership

State of _____)
:SS:
County of _____)

On this _____ day of _____ 20__

before me personally came _____ to me known, and known to me to be one of the members of the firm of

_____ who executed the foregoing instrument and he/she acknowledged to me that he/she executed the same as and for the act of said firm.

(Notary Public)

Acknowledgment of Principal, if an Individual

State of _____)

:SS:

County of _____)

On this _____ day of _____ 20____

before me personally came _____ to me known, and known to me to be the person described herein and who executed the foregoing instrument and he/she acknowledged to me that he/she executed the same.

(Notary Public)

(If bidder is a partnership, state here the name and residence of each member thereof)

Name of Partners

Residence Address

_____	_____
_____	_____
_____	_____

(If bidder is a corporation, state here the title, name, and residence of each member thereof)

Title

Name

Residence Address

_____	_____	_____
_____	_____	_____
_____	_____	_____

Organized under the laws of the state of _____

Date:



CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

RONALD L. WALKER, II
Secretary

JEAN ZEILER
Acting Director

Awarding Authority: Georgetown School Committee
Contract Number: 14147 **City/Town:** GEORGETOWN
Description of Work: Perley Elementary School: Remove/dispose of 1100sf of existing EPDM membrane roofing assembly & replace w/ PVC membrane roofing assembly. Remove & replace of 5300sf of existing slate roofing assembly.
Job Location: 51 North Street, Georgetown MA, 01833

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.

Issue Date: 05/27/2015

Wage Request Number: 20150526-071

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$31.30	\$9.91	\$9.33	\$0.00	\$50.54
	06/01/2015	\$31.65	\$9.91	\$9.33	\$0.00	\$50.89
	08/01/2015	\$31.65	\$10.41	\$9.33	\$0.00	\$51.39
	12/01/2015	\$31.65	\$10.41	\$10.08	\$0.00	\$52.14
	06/01/2016	\$32.15	\$10.41	\$10.08	\$0.00	\$52.64
	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$31.37	\$9.91	\$9.33	\$0.00	\$50.61
	06/01/2015	\$31.72	\$9.91	\$9.33	\$0.00	\$50.96
	08/01/2015	\$31.72	\$10.41	\$9.33	\$0.00	\$51.46
	12/01/2015	\$31.72	\$10.41	\$10.08	\$0.00	\$52.21
	06/01/2016	\$32.22	\$10.41	\$10.08	\$0.00	\$52.71
	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$31.49	\$9.91	\$9.33	\$0.00	\$50.73
	06/01/2015	\$31.84	\$9.91	\$9.33	\$0.00	\$51.08
	08/01/2015	\$31.84	\$10.41	\$9.33	\$0.00	\$51.58
	12/01/2015	\$31.84	\$10.41	\$10.08	\$0.00	\$52.33
	06/01/2016	\$32.34	\$10.41	\$10.08	\$0.00	\$52.83
	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$87.36	\$9.80	\$18.17	\$0.00	\$115.33
	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2014	\$32.48	\$10.40	\$5.95	\$0.00	\$48.83
	06/01/2015	\$33.43	\$10.40	\$5.95	\$0.00	\$49.78
	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2014	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2010	\$37.70	\$6.97	\$11.18	\$0.00	\$55.85

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2010

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$24.51	\$6.97	\$11.18	\$0.00	\$42.66
2	65	\$24.51	\$6.97	\$11.18	\$0.00	\$42.66
3	70	\$26.39	\$6.97	\$11.18	\$0.00	\$44.54
4	75	\$28.28	\$6.97	\$11.18	\$0.00	\$46.43
5	80	\$30.16	\$6.97	\$11.18	\$0.00	\$48.31
6	85	\$32.05	\$6.97	\$11.18	\$0.00	\$50.20
7	90	\$33.93	\$6.97	\$11.18	\$0.00	\$52.08
8	95	\$35.82	\$6.97	\$11.18	\$0.00	\$53.97

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (LYNN)</i>	02/01/2015	\$48.96	\$10.18	\$18.50	\$0.00	\$77.64
	08/01/2015	\$49.86	\$10.18	\$18.57	\$0.00	\$78.61
	02/01/2016	\$50.43	\$10.18	\$18.57	\$0.00	\$79.18
	08/01/2016	\$51.33	\$10.18	\$18.65	\$0.00	\$80.16
	02/01/2017	\$51.90	\$10.18	\$18.65	\$0.00	\$80.73

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Lynn

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.48	\$10.18	\$18.50	\$0.00	\$53.16
2	60	\$29.38	\$10.18	\$18.50	\$0.00	\$58.06
3	70	\$34.27	\$10.18	\$18.50	\$0.00	\$62.95
4	80	\$39.17	\$10.18	\$18.50	\$0.00	\$67.85
5	90	\$44.06	\$10.18	\$18.50	\$0.00	\$72.74

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$18.57	\$0.00	\$53.68
2	60	\$29.92	\$10.18	\$18.57	\$0.00	\$58.67
3	70	\$34.90	\$10.18	\$18.57	\$0.00	\$63.65
4	80	\$39.89	\$10.18	\$18.57	\$0.00	\$68.64
5	90	\$44.87	\$10.18	\$18.57	\$0.00	\$73.62

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$35.70	\$7.30	\$13.15	\$0.00	\$56.15
	06/01/2015	\$36.45	\$7.30	\$13.15	\$0.00	\$56.90
	12/01/2015	\$37.20	\$7.30	\$13.15	\$0.00	\$57.65
	06/01/2016	\$37.95	\$7.30	\$13.15	\$0.00	\$58.40
	12/01/2016	\$38.95	\$7.30	\$13.15	\$0.00	\$59.40

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.55	\$7.30	\$13.15	\$0.00	\$55.00
	06/01/2015	\$35.30	\$7.30	\$13.15	\$0.00	\$55.75
	12/01/2015	\$36.05	\$7.30	\$13.15	\$0.00	\$56.50
	06/01/2016	\$36.80	\$7.30	\$13.15	\$0.00	\$57.25
	12/01/2016	\$37.80	\$7.30	\$13.15	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.55	\$7.30	\$13.15	\$0.00	\$55.00
	06/01/2015	\$35.30	\$7.30	\$13.15	\$0.00	\$55.75
	12/01/2015	\$36.05	\$7.30	\$13.15	\$0.00	\$56.50
	06/01/2016	\$36.80	\$7.30	\$13.15	\$0.00	\$57.25
	12/01/2016	\$37.80	\$7.30	\$13.15	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2015	\$35.75	\$9.80	\$16.48	\$0.00	\$62.03

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.88	\$9.80	\$1.63	\$0.00	\$29.31
2	60	\$21.45	\$9.80	\$1.63	\$0.00	\$32.88
3	70	\$25.03	\$9.80	\$11.59	\$0.00	\$46.42
4	75	\$26.81	\$9.80	\$11.59	\$0.00	\$48.20
5	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
6	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
7	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83
8	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (LYNN)</i>	01/01/2015	\$44.90	\$10.90	\$18.71	\$1.30	\$75.81
	07/01/2015	\$45.82	\$10.90	\$18.71	\$1.30	\$76.73
	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Lynn)

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.45	\$10.90	\$12.21	\$1.30	\$46.86
2	60	\$26.94	\$10.90	\$13.71	\$1.30	\$52.85
3	65	\$29.19	\$10.90	\$14.71	\$1.30	\$56.10
4	70	\$31.43	\$10.90	\$15.71	\$1.30	\$59.34
5	75	\$33.68	\$10.90	\$16.71	\$1.30	\$62.59
6	80	\$35.92	\$10.90	\$17.71	\$1.30	\$65.83
7	90	\$40.41	\$10.90	\$18.71	\$1.30	\$71.32

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$10.90	\$12.21	\$1.30	\$47.32
2	60	\$27.49	\$10.90	\$13.71	\$1.30	\$53.40
3	65	\$29.78	\$10.90	\$14.71	\$1.30	\$56.69
4	70	\$32.07	\$10.90	\$15.71	\$1.30	\$59.98
5	75	\$34.37	\$10.90	\$16.71	\$1.30	\$63.28
6	80	\$36.66	\$10.90	\$17.71	\$1.30	\$66.57
7	90	\$41.24	\$10.90	\$18.71	\$1.30	\$72.15

Notes:
Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	12/01/2014	\$43.39	\$10.00	\$14.30	\$0.00	\$67.69
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$44.14	\$10.00	\$14.30	\$0.00	\$68.44
	12/01/2015	\$45.39	\$10.00	\$14.30	\$0.00	\$69.69
	06/01/2016	\$46.14	\$10.00	\$14.30	\$0.00	\$70.44
	12/01/2016	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	06/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
	12/01/2017	\$49.39	\$10.00	\$14.30	\$0.00	\$73.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2015	\$47.66	\$7.85	\$16.10	\$0.00	\$71.61
	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.83	\$7.85	\$0.00	\$0.00	\$31.68
2	55	\$26.21	\$7.85	\$3.66	\$0.00	\$37.72
3	60	\$28.60	\$7.85	\$3.99	\$0.00	\$40.44
4	65	\$30.98	\$7.85	\$4.32	\$0.00	\$43.15
5	70	\$33.36	\$7.85	\$14.11	\$0.00	\$55.32
6	75	\$35.75	\$7.85	\$14.44	\$0.00	\$58.04
7	80	\$38.13	\$7.85	\$14.77	\$0.00	\$60.75
8	90	\$42.89	\$7.85	\$15.44	\$0.00	\$66.18

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 2</i>	12/01/2014	\$34.75	\$7.30	\$12.95	\$0.00	\$55.00
	06/01/2015	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	12/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$35.75	\$7.30	\$12.95	\$0.00	\$56.00
	06/01/2015	\$36.50	\$7.30	\$12.95	\$0.00	\$56.75
	12/01/2015	\$37.25	\$7.30	\$12.95	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 2</i>	12/01/2014	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	06/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
	12/01/2015	\$37.00	\$7.30	\$12.95	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i>	12/01/2014	\$35.75	\$7.30	\$12.95	\$0.00	\$56.00
	06/01/2015	\$36.50	\$7.30	\$12.95	\$0.00	\$56.75
	12/01/2015	\$37.25	\$7.30	\$12.95	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	06/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
	12/01/2015	\$37.00	\$7.30	\$12.95	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	12/01/2014	\$34.75	\$7.30	\$12.95	\$0.00	\$55.00
	06/01/2015	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	12/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$58.24	\$9.80	\$18.17	\$0.00	\$86.21
	08/01/2015	\$60.34	\$9.80	\$18.17	\$0.00	\$88.31
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$62.40	\$9.80	\$18.17	\$0.00	\$90.37
	08/01/2015	\$64.65	\$9.80	\$18.17	\$0.00	\$92.62
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$87.36	\$9.80	\$18.17	\$0.00	\$115.33
	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.07	\$13.00	\$0.54	\$0.00	\$31.61
2	40	\$18.07	\$13.00	\$0.54	\$0.00	\$31.61
3	45	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
4	45	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
5	50	\$22.59	\$13.00	\$11.98	\$0.00	\$47.57
6	55	\$24.84	\$13.00	\$12.33	\$0.00	\$50.17
7	60	\$27.10	\$13.00	\$12.66	\$0.00	\$52.76
8	65	\$29.36	\$13.00	\$13.01	\$0.00	\$55.37
9	70	\$31.62	\$13.00	\$13.35	\$0.00	\$57.97
10	75	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.45	\$13.00	\$0.55	\$0.00	\$32.00
2	40	\$18.45	\$13.00	\$0.55	\$0.00	\$32.00
3	45	\$20.76	\$13.00	\$11.65	\$0.00	\$45.41
4	45	\$20.76	\$13.00	\$11.65	\$0.00	\$45.41
5	50	\$23.07	\$13.00	\$11.99	\$0.00	\$48.06
6	55	\$25.37	\$13.00	\$12.34	\$0.00	\$50.71
7	60	\$27.68	\$13.00	\$12.68	\$0.00	\$53.36
8	65	\$29.98	\$13.00	\$13.03	\$0.00	\$56.01
9	70	\$32.29	\$13.00	\$13.37	\$0.00	\$58.66
10	75	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32

Notes :
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2015	\$53.30	\$13.58	\$14.21	\$0.00	\$81.09
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.65	\$13.58	\$0.00	\$0.00	\$40.23
2	55	\$29.32	\$13.58	\$14.21	\$0.00	\$57.11
3	65	\$34.65	\$13.58	\$14.21	\$0.00	\$62.44
4	70	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
5	80	\$42.64	\$13.58	\$14.21	\$0.00	\$70.43

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2015	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$40.22	\$10.00	\$14.30	\$0.00	\$64.52
	11/01/2015	\$40.80	\$10.00	\$14.30	\$0.00	\$65.10
	05/01/2016	\$41.69	\$10.00	\$14.30	\$0.00	\$65.99
	11/01/2016	\$42.28	\$10.00	\$14.30	\$0.00	\$66.58
	05/01/2017	\$43.16	\$10.00	\$14.30	\$0.00	\$67.46
	11/01/2017	\$43.89	\$10.00	\$14.30	\$0.00	\$68.19
	05/01/2018	\$44.60	\$10.00	\$14.30	\$0.00	\$68.90

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$41.65	\$10.00	\$14.30	\$0.00	\$65.95
	11/01/2015	\$42.24	\$10.00	\$14.30	\$0.00	\$66.54
	05/01/2016	\$43.13	\$10.00	\$14.30	\$0.00	\$67.43
	11/01/2016	\$43.73	\$10.00	\$14.30	\$0.00	\$68.03
	05/01/2017	\$44.62	\$10.00	\$14.30	\$0.00	\$68.92
	11/01/2017	\$45.35	\$10.00	\$14.30	\$0.00	\$69.65
	05/01/2018	\$46.07	\$10.00	\$14.30	\$0.00	\$70.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$21.68	\$10.00	\$14.30	\$0.00	\$45.98
	11/01/2015	\$22.02	\$10.00	\$14.30	\$0.00	\$46.32
	05/01/2016	\$22.54	\$10.00	\$14.30	\$0.00	\$46.84
	11/01/2016	\$22.89	\$10.00	\$14.30	\$0.00	\$47.19
	05/01/2017	\$23.42	\$10.00	\$14.30	\$0.00	\$47.72
	11/01/2017	\$23.84	\$10.00	\$14.30	\$0.00	\$48.14
	05/01/2018	\$24.27	\$10.00	\$14.30	\$0.00	\$48.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58
	09/01/2015	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32
	03/01/2016	\$35.31	\$13.00	\$13.74	\$0.00	\$62.05
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$35.33	\$10.00	\$14.30	\$0.00	\$59.63
	06/01/2015	\$35.95	\$10.00	\$14.30	\$0.00	\$60.25
	12/01/2015	\$37.00	\$10.00	\$14.30	\$0.00	\$61.30
	06/01/2016	\$37.62	\$10.00	\$14.30	\$0.00	\$61.92
	12/01/2016	\$38.66	\$10.00	\$14.30	\$0.00	\$62.96
	06/01/2017	\$39.50	\$10.00	\$14.30	\$0.00	\$63.80
	12/01/2017	\$40.33	\$10.00	\$14.30	\$0.00	\$64.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	12/01/2014	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	06/01/2015	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	12/01/2015	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	06/01/2016	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	12/01/2016	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2014	\$40.40	\$9.80	\$17.21	\$0.00	\$67.41

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.20	\$9.80	\$1.79	\$0.00	\$31.79
2	55	\$22.22	\$9.80	\$1.79	\$0.00	\$33.81
3	60	\$24.24	\$9.80	\$11.84	\$0.00	\$45.88
4	65	\$26.26	\$9.80	\$11.84	\$0.00	\$47.90
5	70	\$28.28	\$9.80	\$13.63	\$0.00	\$51.71
6	75	\$30.30	\$9.80	\$13.63	\$0.00	\$53.73
7	80	\$32.32	\$9.80	\$15.42	\$0.00	\$57.54
8	85	\$34.34	\$9.80	\$15.42	\$0.00	\$59.56

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2015	\$37.16	\$7.85	\$16.10	\$0.00	\$61.11
	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.58	\$7.85	\$0.00	\$0.00	\$26.43
2	55	\$20.44	\$7.85	\$3.66	\$0.00	\$31.95
3	60	\$22.30	\$7.85	\$3.99	\$0.00	\$34.14
4	65	\$24.15	\$7.85	\$4.32	\$0.00	\$36.32
5	70	\$26.01	\$7.85	\$14.11	\$0.00	\$47.97
6	75	\$27.87	\$7.85	\$14.44	\$0.00	\$50.16
7	80	\$29.73	\$7.85	\$14.77	\$0.00	\$52.35
8	90	\$33.44	\$7.85	\$15.44	\$0.00	\$56.73

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.31	\$10.00	\$0.00	\$0.00	\$33.31
2	60	\$25.43	\$10.00	\$14.30	\$0.00	\$49.73
3	65	\$27.55	\$10.00	\$14.30	\$0.00	\$51.85
4	70	\$29.67	\$10.00	\$14.30	\$0.00	\$53.97
5	75	\$31.79	\$10.00	\$14.30	\$0.00	\$56.09
6	80	\$33.91	\$10.00	\$14.30	\$0.00	\$58.21
7	85	\$36.03	\$10.00	\$14.30	\$0.00	\$60.33
8	90	\$38.15	\$10.00	\$14.30	\$0.00	\$62.45

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.73	\$10.00	\$0.00	\$0.00	\$33.73
2	60	\$25.88	\$10.00	\$14.30	\$0.00	\$50.18
3	65	\$28.04	\$10.00	\$14.30	\$0.00	\$52.34
4	70	\$30.20	\$10.00	\$14.30	\$0.00	\$54.50
5	75	\$32.36	\$10.00	\$14.30	\$0.00	\$56.66
6	80	\$34.51	\$10.00	\$14.30	\$0.00	\$58.81
7	85	\$36.67	\$10.00	\$14.30	\$0.00	\$60.97
8	90	\$38.83	\$10.00	\$14.30	\$0.00	\$63.13

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2015	\$43.28	\$10.20	\$20.54	\$2.22	\$76.24
	08/01/2015	\$44.28	\$10.20	\$20.54	\$2.22	\$77.24
	02/01/2016	\$45.28	\$10.20	\$20.54	\$2.22	\$78.24
	08/01/2016	\$46.43	\$10.20	\$20.54	\$2.22	\$79.39
	02/01/2017	\$47.53	\$10.20	\$20.54	\$2.22	\$80.49
	08/01/2017	\$48.63	\$10.20	\$20.54	\$2.22	\$81.59
	02/01/2018	\$49.78	\$10.20	\$20.54	\$2.22	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2015	\$43.28	\$10.20	\$20.54	\$2.22	\$76.24
	08/01/2015	\$44.28	\$10.20	\$20.54	\$2.22	\$77.24
	02/01/2016	\$45.28	\$10.20	\$20.54	\$2.22	\$78.24
	08/01/2016	\$46.43	\$10.20	\$20.54	\$2.22	\$79.39
	02/01/2017	\$47.53	\$10.20	\$20.54	\$2.22	\$80.49
	08/01/2017	\$48.63	\$10.20	\$20.54	\$2.22	\$81.59
	02/01/2018	\$49.78	\$10.20	\$20.54	\$2.22	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	03/01/2015	\$46.36	\$9.70	\$14.89	\$0.00	\$70.95
	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	03/01/2015	\$46.36	\$9.70	\$14.89	\$0.00	\$70.95
	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2014	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2014	\$43.31	\$11.25	\$12.60	\$0.00	\$67.16

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.66	\$11.25	\$9.35	\$0.00	\$42.26
2	60	\$25.99	\$11.25	\$10.00	\$0.00	\$47.24
3	70	\$30.32	\$11.25	\$10.65	\$0.00	\$52.22
4	80	\$34.65	\$11.25	\$11.30	\$0.00	\$57.20

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (LAWRENCE AREA)</i>	03/16/2015	\$37.70	\$7.70	\$20.25	\$0.00	\$65.65
---	------------	---------	--------	---------	--------	---------

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Lawrence

Effective Date - 03/16/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.62	\$7.70	\$20.25	\$0.00	\$50.57
2	70	\$26.39	\$7.70	\$20.25	\$0.00	\$54.34
3	75	\$28.28	\$7.70	\$20.25	\$0.00	\$56.23
4	80	\$30.16	\$7.70	\$20.25	\$0.00	\$58.11
5	85	\$32.05	\$7.70	\$20.25	\$0.00	\$60.00
6	90	\$33.93	\$7.70	\$20.25	\$0.00	\$61.88

Notes:
Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.65	\$7.30	\$12.30	\$0.00	\$50.25
	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

Apprentice - LABORER - Zone 2

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.39	\$7.30	\$12.30	\$0.00	\$37.99
2	70	\$21.46	\$7.30	\$12.30	\$0.00	\$41.06
3	80	\$24.52	\$7.30	\$12.30	\$0.00	\$44.12
4	90	\$27.59	\$7.30	\$12.30	\$0.00	\$47.19

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.69	\$7.30	\$12.30	\$0.00	\$38.29
2	70	\$21.81	\$7.30	\$12.30	\$0.00	\$41.41
3	80	\$24.92	\$7.30	\$12.30	\$0.00	\$44.52
4	90	\$28.04	\$7.30	\$12.30	\$0.00	\$47.64

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.65	\$7.30	\$12.30	\$0.00	\$50.25
	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.65	\$7.30	\$12.30	\$0.00	\$50.25
	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.85	\$7.30	\$12.25	\$0.00	\$50.40
	06/01/2015	\$31.35	\$7.30	\$12.25	\$0.00	\$50.90
	12/01/2015	\$31.85	\$7.30	\$12.25	\$0.00	\$51.40
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.65	\$7.30	\$12.30	\$0.00	\$50.25
	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.65	\$7.30	\$12.30	\$0.00	\$50.25
	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2015	\$37.37	\$10.18	\$17.18	\$0.00	\$64.73
	08/01/2015	\$38.08	\$10.18	\$17.25	\$0.00	\$65.51
	02/01/2016	\$38.53	\$10.18	\$17.25	\$0.00	\$65.96
	08/01/2016	\$39.23	\$10.18	\$17.33	\$0.00	\$66.74
	02/01/2017	\$39.69	\$10.18	\$17.33	\$0.00	\$67.20

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.69	\$10.18	\$17.18	\$0.00	\$46.05
2	60	\$22.42	\$10.18	\$17.18	\$0.00	\$49.78
3	70	\$26.16	\$10.18	\$17.18	\$0.00	\$53.52
4	80	\$29.90	\$10.18	\$17.18	\$0.00	\$57.26
5	90	\$33.63	\$10.18	\$17.18	\$0.00	\$60.99

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.25	\$0.00	\$46.47
2	60	\$22.85	\$10.18	\$17.25	\$0.00	\$50.28
3	70	\$26.66	\$10.18	\$17.25	\$0.00	\$54.09
4	80	\$30.46	\$10.18	\$17.25	\$0.00	\$57.89
5	90	\$34.27	\$10.18	\$17.25	\$0.00	\$61.70

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2015	\$49.00	\$10.18	\$18.50	\$0.00	\$77.68
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2015	\$49.90	\$10.18	\$18.57	\$0.00	\$78.65
	02/01/2016	\$50.47	\$10.18	\$18.57	\$0.00	\$79.22
	08/01/2016	\$51.37	\$10.18	\$18.65	\$0.00	\$80.20
	02/01/2017	\$51.94	\$10.18	\$18.65	\$0.00	\$80.77

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.50	\$10.18	\$18.50	\$0.00	\$53.18
2	60	\$29.40	\$10.18	\$18.50	\$0.00	\$58.08
3	70	\$34.30	\$10.18	\$18.50	\$0.00	\$62.98
4	80	\$39.20	\$10.18	\$18.50	\$0.00	\$67.88
5	90	\$44.10	\$10.18	\$18.50	\$0.00	\$72.78

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$18.57	\$0.00	\$53.70
2	60	\$29.94	\$10.18	\$18.57	\$0.00	\$58.69
3	70	\$34.93	\$10.18	\$18.57	\$0.00	\$63.68
4	80	\$39.92	\$10.18	\$18.57	\$0.00	\$68.67
5	90	\$44.91	\$10.18	\$18.57	\$0.00	\$73.66

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	04/01/2015	\$34.69	\$9.80	\$16.21	\$0.00	\$60.70
---	------------	---------	--------	---------	--------	---------

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - MILLWRIGHT - Local 1121 Zone 2						
Effective Date - 04/01/2015						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$19.08	\$9.80	\$4.48	\$0.00	\$33.36
2	65	\$22.55	\$9.80	\$13.36	\$0.00	\$45.71
3	75	\$26.02	\$9.80	\$14.18	\$0.00	\$50.00
4	85	\$29.49	\$9.80	\$14.99	\$0.00	\$54.28

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 2	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2014	\$21.90	\$10.00	\$14.30	\$0.00	\$46.20
	06/01/2015	\$22.28	\$10.00	\$14.30	\$0.00	\$46.58
	12/01/2015	\$22.93	\$10.00	\$14.30	\$0.00	\$47.23
	06/01/2016	\$23.32	\$10.00	\$14.30	\$0.00	\$47.62
	12/01/2016	\$23.97	\$10.00	\$14.30	\$0.00	\$48.27
	06/01/2017	\$24.48	\$10.00	\$14.30	\$0.00	\$48.78
	12/01/2017	\$25.00	\$10.00	\$14.30	\$0.00	\$49.30

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2014	\$25.54	\$10.00	\$14.30	\$0.00	\$49.84
	06/01/2015	\$25.99	\$10.00	\$14.30	\$0.00	\$50.29
	12/01/2015	\$26.74	\$10.00	\$14.30	\$0.00	\$51.04
	06/01/2016	\$27.20	\$10.00	\$14.30	\$0.00	\$51.50
	12/01/2016	\$27.95	\$10.00	\$14.30	\$0.00	\$52.25
	06/01/2017	\$28.55	\$10.00	\$14.30	\$0.00	\$52.85
	12/01/2017	\$29.16	\$10.00	\$14.30	\$0.00	\$53.46

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2015	\$47.66	\$7.85	\$16.10	\$0.00	\$71.61
	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.83	\$7.85	\$0.00	\$0.00	\$31.68
2	55	\$26.21	\$7.85	\$3.66	\$0.00	\$37.72
3	60	\$28.60	\$7.85	\$3.99	\$0.00	\$40.44
4	65	\$30.98	\$7.85	\$4.32	\$0.00	\$43.15
5	70	\$33.36	\$7.85	\$14.11	\$0.00	\$55.32
6	75	\$35.75	\$7.85	\$14.44	\$0.00	\$58.04
7	80	\$38.13	\$7.85	\$14.77	\$0.00	\$60.75
8	90	\$42.89	\$7.85	\$15.44	\$0.00	\$66.18

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2015	\$38.56	\$7.85	\$16.10	\$0.00	\$62.51
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2015	\$39.46	\$7.85	\$16.10	\$0.00	\$63.41
	01/01/2016	\$40.41	\$7.85	\$16.10	\$0.00	\$64.36
	07/01/2016	\$41.36	\$7.85	\$16.10	\$0.00	\$65.31
	01/01/2017	\$42.31	\$7.85	\$16.10	\$0.00	\$66.26

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.28	\$7.85	\$0.00	\$0.00	\$27.13
2	55	\$21.21	\$7.85	\$3.66	\$0.00	\$32.72
3	60	\$23.14	\$7.85	\$3.99	\$0.00	\$34.98
4	65	\$25.06	\$7.85	\$4.32	\$0.00	\$37.23
5	70	\$26.99	\$7.85	\$14.11	\$0.00	\$48.95
6	75	\$28.92	\$7.85	\$14.44	\$0.00	\$51.21
7	80	\$30.85	\$7.85	\$14.77	\$0.00	\$53.47
8	90	\$34.70	\$7.85	\$15.44	\$0.00	\$57.99

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.73	\$7.85	\$0.00	\$0.00	\$27.58
2	55	\$21.70	\$7.85	\$3.66	\$0.00	\$33.21
3	60	\$23.68	\$7.85	\$3.99	\$0.00	\$35.52
4	65	\$25.65	\$7.85	\$4.32	\$0.00	\$37.82
5	70	\$27.62	\$7.85	\$14.11	\$0.00	\$49.58
6	75	\$29.60	\$7.85	\$14.44	\$0.00	\$51.89
7	80	\$31.57	\$7.85	\$14.77	\$0.00	\$54.19
8	90	\$35.51	\$7.85	\$15.44	\$0.00	\$58.80

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2015	\$36.62	\$7.85	\$16.10	\$0.00	\$60.57
PAINTERS LOCAL 35 - ZONE 2	07/01/2015	\$37.52	\$7.85	\$16.10	\$0.00	\$61.47
	01/01/2016	\$38.47	\$7.85	\$16.10	\$0.00	\$62.42
	07/01/2016	\$39.42	\$7.85	\$16.10	\$0.00	\$63.37
	01/01/2017	\$40.37	\$7.85	\$16.10	\$0.00	\$64.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.31	\$7.85	\$0.00	\$0.00	\$26.16
2	55	\$20.14	\$7.85	\$3.66	\$0.00	\$31.65
3	60	\$21.97	\$7.85	\$3.99	\$0.00	\$33.81
4	65	\$23.80	\$7.85	\$4.32	\$0.00	\$35.97
5	70	\$25.63	\$7.85	\$14.11	\$0.00	\$47.59
6	75	\$27.47	\$7.85	\$14.44	\$0.00	\$49.76
7	80	\$29.30	\$7.85	\$14.77	\$0.00	\$51.92
8	90	\$32.96	\$7.85	\$15.44	\$0.00	\$56.25

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.76	\$7.85	\$0.00	\$0.00	\$26.61
2	55	\$20.64	\$7.85	\$3.66	\$0.00	\$32.15
3	60	\$22.51	\$7.85	\$3.99	\$0.00	\$34.35
4	65	\$24.39	\$7.85	\$4.32	\$0.00	\$36.56
5	70	\$26.26	\$7.85	\$14.11	\$0.00	\$48.22
6	75	\$28.14	\$7.85	\$14.44	\$0.00	\$50.43
7	80	\$30.02	\$7.85	\$14.77	\$0.00	\$52.64
8	90	\$33.77	\$7.85	\$15.44	\$0.00	\$57.06

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS)	12/01/2014	\$30.65	\$7.30	\$12.30	\$0.00	\$50.25
LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *	01/01/2015	\$37.16	\$7.85	\$16.10	\$0.00	\$61.11
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.58	\$7.85	\$0.00	\$0.00	\$26.43
2	55	\$20.44	\$7.85	\$3.66	\$0.00	\$31.95
3	60	\$22.30	\$7.85	\$3.99	\$0.00	\$34.14
4	65	\$24.15	\$7.85	\$4.32	\$0.00	\$36.32
5	70	\$26.01	\$7.85	\$14.11	\$0.00	\$47.97
6	75	\$27.87	\$7.85	\$14.44	\$0.00	\$50.16
7	80	\$29.73	\$7.85	\$14.77	\$0.00	\$52.35
8	90	\$33.44	\$7.85	\$15.44	\$0.00	\$56.73

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2015	\$35.22	\$7.85	\$16.10	\$0.00	\$59.17
PAINTERS LOCAL 35 - ZONE 2	07/01/2015	\$36.12	\$7.85	\$16.10	\$0.00	\$60.07
	01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.61	\$7.85	\$0.00	\$0.00	\$25.46
2	55	\$19.37	\$7.85	\$3.66	\$0.00	\$30.88
3	60	\$21.13	\$7.85	\$3.99	\$0.00	\$32.97
4	65	\$22.89	\$7.85	\$4.32	\$0.00	\$35.06
5	70	\$24.65	\$7.85	\$14.11	\$0.00	\$46.61
6	75	\$26.42	\$7.85	\$14.44	\$0.00	\$48.71
7	80	\$28.18	\$7.85	\$14.77	\$0.00	\$50.80
8	90	\$31.70	\$7.85	\$15.44	\$0.00	\$54.99

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.06	\$7.85	\$0.00	\$0.00	\$25.91
2	55	\$19.87	\$7.85	\$3.66	\$0.00	\$31.38
3	60	\$21.67	\$7.85	\$3.99	\$0.00	\$33.51
4	65	\$23.48	\$7.85	\$4.32	\$0.00	\$35.65
5	70	\$25.28	\$7.85	\$14.11	\$0.00	\$47.24
6	75	\$27.09	\$7.85	\$14.44	\$0.00	\$49.38
7	80	\$28.90	\$7.85	\$14.77	\$0.00	\$51.52
8	90	\$32.51	\$7.85	\$15.44	\$0.00	\$55.80

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2012	\$30.28	\$9.07	\$8.00	\$0.00	\$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$18.17	\$0.00	\$48.77
2	60	\$24.96	\$9.80	\$18.17	\$0.00	\$52.93
3	70	\$29.12	\$9.80	\$18.17	\$0.00	\$57.09
4	75	\$31.20	\$9.80	\$18.17	\$0.00	\$59.17
5	80	\$33.28	\$9.80	\$18.17	\$0.00	\$61.25
6	80	\$33.28	\$9.80	\$18.17	\$0.00	\$61.25
7	90	\$37.44	\$9.80	\$18.17	\$0.00	\$65.41
8	90	\$37.44	\$9.80	\$18.17	\$0.00	\$65.41

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.55	\$9.80	\$18.17	\$0.00	\$49.52
2	60	\$25.86	\$9.80	\$18.17	\$0.00	\$53.83
3	70	\$30.17	\$9.80	\$18.17	\$0.00	\$58.14
4	75	\$32.33	\$9.80	\$18.17	\$0.00	\$60.30
5	80	\$34.48	\$9.80	\$18.17	\$0.00	\$62.45
6	80	\$34.48	\$9.80	\$18.17	\$0.00	\$62.45
7	90	\$38.79	\$9.80	\$18.17	\$0.00	\$66.76
8	90	\$38.79	\$9.80	\$18.17	\$0.00	\$66.76

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER	03/01/2015	\$46.36	\$9.70	\$14.89	\$0.00	\$70.95
PIPEFITTERS LOCAL 537 (Local 138)	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PIPEFITTER Local 537 (Local 138)

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.54	\$9.70	\$5.50	\$0.00	\$33.74
2	45	\$20.86	\$9.70	\$14.89	\$0.00	\$45.45
3	60	\$27.82	\$9.70	\$14.89	\$0.00	\$52.41
4	70	\$32.45	\$9.70	\$14.89	\$0.00	\$57.04
5	80	\$37.09	\$9.70	\$14.89	\$0.00	\$61.68

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.94	\$9.70	\$5.50	\$0.00	\$34.14
2	45	\$21.31	\$9.70	\$14.89	\$0.00	\$45.90
3	60	\$28.42	\$9.70	\$14.89	\$0.00	\$53.01
4	70	\$33.15	\$9.70	\$14.89	\$0.00	\$57.74
5	80	\$37.89	\$9.70	\$14.89	\$0.00	\$62.48

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
 Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

PIPELAYER	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

PLUMBER	03/01/2015	\$46.13	\$10.32	\$14.89	\$0.00	\$71.34
PLUMBERS & GASFITTERS LOCAL 12 (Local 138)	09/01/2015	\$47.13	\$10.32	\$14.89	\$0.00	\$72.34
	03/01/2016	\$48.28	\$10.32	\$14.89	\$0.00	\$73.49
	09/01/2016	\$49.33	\$10.32	\$14.89	\$0.00	\$74.54
	03/01/2017	\$50.33	\$10.32	\$14.89	\$0.00	\$75.54

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/GASFITTER - Local 12 (Local 138)

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$16.15	\$10.32	\$5.54	\$0.00	\$32.01
2	40	\$18.45	\$10.32	\$6.27	\$0.00	\$35.04
3	55	\$25.37	\$10.32	\$8.42	\$0.00	\$44.11
4	65	\$29.98	\$10.32	\$9.87	\$0.00	\$50.17
5	75	\$34.60	\$10.32	\$11.30	\$0.00	\$56.22

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$16.50	\$10.32	\$5.54	\$0.00	\$32.36
2	40	\$18.85	\$10.32	\$6.27	\$0.00	\$35.44
3	55	\$25.92	\$10.32	\$8.42	\$0.00	\$44.66
4	65	\$30.63	\$10.32	\$9.87	\$0.00	\$50.82
5	75	\$35.35	\$10.32	\$11.30	\$0.00	\$56.97

Notes:

Steps are 1 yr
Step 4 with lic\$53.20 Step5 with lic\$59.23

Apprentice to Journeyworker Ratio:1:5

PNEUMATIC CONTROLS (TEMP.)	03/01/2015	\$46.36	\$9.70	\$14.89	\$0.00	\$70.95
PIPEFITTERS LOCAL 537 (Local 138)	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER	12/01/2014	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
LABORERS - ZONE 2	06/01/2015	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2015	\$32.65	\$7.30	\$12.30	\$0.00	\$52.25
	06/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
	12/01/2016	\$33.90	\$7.30	\$12.30	\$0.00	\$53.50

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 42</i>	05/01/2015	\$22.66	\$8.49	\$9.89	\$0.00	\$41.04
	11/01/2015	\$22.78	\$8.49	\$9.89	\$0.00	\$41.16
	04/30/2016	\$22.78	\$8.49	\$10.25	\$0.00	\$41.52
	05/01/2016	\$24.15	\$8.49	\$10.68	\$0.00	\$43.32
	04/30/2017	\$24.15	\$8.49	\$11.07	\$0.00	\$43.71
	05/01/2017	\$24.21	\$8.49	\$11.54	\$0.00	\$44.24
	04/30/2018	\$24.21	\$8.49	\$11.96	\$0.00	\$44.66
	05/01/2018	\$24.24	\$8.49	\$12.46	\$0.00	\$45.19
	04/30/2019	\$24.24	\$8.49	\$12.92	\$0.00	\$45.65
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
RESIDENTIAL WOOD FRAME CARPENTER **	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. *CARPENTERS -ZONE 2 (Residential Wood)*

Classification**Effective Date****Base Wage****Health****Pension****Supplemental
Unemployment****Total Rate**

As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.

Apprentice - CARPENTER (Residential Wood Frame) - Zone 2**Effective Date - 05/01/2011**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.54	\$6.34	\$0.00	\$0.00	\$20.88
2	60	\$14.54	\$6.34	\$6.23	\$0.00	\$27.11
3	65	\$15.76	\$6.34	\$6.23	\$0.00	\$28.33
4	70	\$16.97	\$6.34	\$6.23	\$0.00	\$29.54
5	75	\$18.18	\$6.34	\$6.23	\$0.00	\$30.75
6	80	\$19.39	\$6.34	\$6.23	\$0.00	\$31.96
7	85	\$20.60	\$6.34	\$6.23	\$0.00	\$33.17
8	90	\$21.82	\$6.34	\$6.23	\$0.00	\$34.39

Notes:**Apprentice to Journeyworker Ratio:1:5**

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2015	\$40.11	\$10.50	\$11.60	\$0.00	\$62.21
	08/01/2015	\$41.01	\$10.50	\$11.60	\$0.00	\$63.11
	02/01/2016	\$41.91	\$10.50	\$11.60	\$0.00	\$64.01

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$10.50	\$3.38	\$0.00	\$33.94
2	60	\$24.07	\$10.50	\$11.60	\$0.00	\$46.17
3	65	\$26.07	\$10.50	\$11.60	\$0.00	\$48.17
4	75	\$30.08	\$10.50	\$11.60	\$0.00	\$52.18
5	85	\$34.09	\$10.50	\$11.60	\$0.00	\$56.19

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$10.50	\$3.38	\$0.00	\$34.39
2	60	\$24.61	\$10.50	\$11.60	\$0.00	\$46.71
3	65	\$26.66	\$10.50	\$11.60	\$0.00	\$48.76
4	75	\$30.76	\$10.50	\$11.60	\$0.00	\$52.86
5	85	\$34.86	\$10.50	\$11.60	\$0.00	\$56.96

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33	02/01/2015	\$40.36	\$10.50	\$11.60	\$0.00	\$62.46
	08/01/2015	\$41.26	\$10.50	\$11.60	\$0.00	\$63.36
	02/01/2016	\$42.16	\$10.50	\$11.60	\$0.00	\$64.26

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	02/01/2015	\$43.28	\$10.20	\$20.54	\$2.22	\$76.24
	08/01/2015	\$44.28	\$10.20	\$20.54	\$2.22	\$77.24
	02/01/2016	\$45.28	\$10.20	\$20.54	\$2.22	\$78.24
	08/01/2016	\$46.43	\$10.20	\$20.54	\$2.22	\$79.39
	02/01/2017	\$47.53	\$10.20	\$20.54	\$2.22	\$80.49
	08/01/2017	\$48.63	\$10.20	\$20.54	\$2.22	\$81.59
	02/01/2018	\$49.78	\$10.20	\$20.54	\$2.22	\$82.74

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.31	\$10.20	\$4.58	\$0.00	\$32.09
2	40	\$17.31	\$10.20	\$4.58	\$0.00	\$32.09
3	45	\$19.48	\$10.20	\$9.09	\$1.16	\$39.93
4	45	\$19.48	\$10.20	\$9.09	\$1.16	\$39.93
5	50	\$21.64	\$10.20	\$9.91	\$1.25	\$43.00
6	50	\$21.64	\$10.20	\$10.16	\$1.26	\$43.26
7	60	\$25.97	\$10.20	\$11.55	\$1.43	\$49.15
8	65	\$28.13	\$10.20	\$12.38	\$1.52	\$52.23
9	75	\$32.46	\$10.20	\$14.02	\$1.70	\$58.38
10	85	\$36.79	\$10.20	\$15.16	\$1.86	\$64.01

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.71	\$10.20	\$4.58	\$0.00	\$32.49
2	40	\$17.71	\$10.20	\$4.58	\$0.00	\$32.49
3	45	\$19.93	\$10.20	\$9.09	\$1.18	\$40.40
4	45	\$19.93	\$10.20	\$9.09	\$1.18	\$40.40
5	50	\$22.14	\$10.20	\$9.91	\$1.27	\$43.52
6	50	\$22.14	\$10.20	\$10.16	\$1.28	\$43.78
7	60	\$26.57	\$10.20	\$11.55	\$1.45	\$49.77
8	65	\$28.78	\$10.20	\$12.38	\$1.54	\$52.90
9	75	\$33.21	\$10.20	\$14.02	\$1.72	\$59.15
10	85	\$37.64	\$10.20	\$15.16	\$1.89	\$64.89

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 2	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
--	------------	---------	--------	--------	--------	---------

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SIGN ERECTOR - Local 35 Zone 2

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$31.59	\$9.91	\$9.33	\$0.00	\$50.83
	06/01/2015	\$31.94	\$9.91	\$9.33	\$0.00	\$51.18
	08/01/2015	\$31.94	\$10.41	\$9.33	\$0.00	\$51.68
	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$31.88	\$9.91	\$9.33	\$0.00	\$51.12
	06/01/2015	\$32.23	\$9.91	\$9.33	\$0.00	\$51.47
	08/01/2015	\$32.23	\$10.41	\$9.33	\$0.00	\$51.97
	12/01/2015	\$32.23	\$10.41	\$10.08	\$0.00	\$52.72
	06/01/2016	\$32.73	\$10.41	\$10.08	\$0.00	\$53.22
	08/01/2016	\$32.73	\$10.91	\$10.08	\$0.00	\$53.72
	12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i>	03/01/2015	\$48.99	\$8.42	\$14.90	\$0.00	\$72.31
	10/01/2015	\$50.03	\$8.42	\$14.90	\$0.00	\$73.35
	01/01/2016	\$50.03	\$8.67	\$15.05	\$0.00	\$73.75
	03/01/2016	\$50.93	\$8.67	\$15.05	\$0.00	\$74.65
	10/01/2016	\$51.97	\$8.67	\$15.05	\$0.00	\$75.69
	03/01/2017	\$52.87	\$8.67	\$15.05	\$0.00	\$76.59

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.15	\$8.42	\$8.40	\$0.00	\$33.97
2	40	\$19.60	\$8.42	\$8.40	\$0.00	\$36.42
3	45	\$22.05	\$8.42	\$8.40	\$0.00	\$38.87
4	50	\$24.50	\$8.42	\$8.40	\$0.00	\$41.32
5	55	\$26.94	\$8.42	\$8.40	\$0.00	\$43.76
6	60	\$29.39	\$8.42	\$8.40	\$0.00	\$46.21
7	65	\$31.84	\$8.42	\$8.40	\$0.00	\$48.66
8	70	\$34.29	\$8.42	\$8.40	\$0.00	\$51.11
9	75	\$36.74	\$8.42	\$8.40	\$0.00	\$53.56
10	80	\$39.19	\$8.42	\$8.40	\$0.00	\$56.01

Effective Date - 10/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.51	\$8.42	\$8.40	\$0.00	\$34.33
2	40	\$20.01	\$8.42	\$8.40	\$0.00	\$36.83
3	45	\$22.51	\$8.42	\$8.40	\$0.00	\$39.33
4	50	\$25.02	\$8.42	\$8.40	\$0.00	\$41.84
5	55	\$27.52	\$8.42	\$8.40	\$0.00	\$44.34
6	60	\$30.02	\$8.42	\$8.40	\$0.00	\$46.84
7	65	\$32.52	\$8.42	\$8.40	\$0.00	\$49.34
8	70	\$35.02	\$8.42	\$8.40	\$0.00	\$51.84
9	75	\$37.52	\$8.42	\$8.40	\$0.00	\$54.34
10	80	\$40.02	\$8.42	\$8.40	\$0.00	\$56.84

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR OPERATING ENGINEERS LOCAL 4	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58
	09/01/2015	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32
	03/01/2016	\$35.31	\$13.00	\$13.74	\$0.00	\$62.05

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.55	\$13.00	\$0.41	\$0.00	\$26.96
2	40	\$13.55	\$13.00	\$0.41	\$0.00	\$26.96
3	45	\$15.25	\$13.00	\$10.87	\$0.00	\$39.12
4	45	\$15.25	\$13.00	\$10.87	\$0.00	\$39.12
5	50	\$16.94	\$13.00	\$11.11	\$0.00	\$41.05
6	55	\$18.63	\$13.00	\$11.38	\$0.00	\$43.01
7	60	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
8	65	\$22.02	\$13.00	\$11.89	\$0.00	\$46.91
9	70	\$23.72	\$13.00	\$12.15	\$0.00	\$48.87
10	75	\$25.41	\$13.00	\$12.41	\$0.00	\$50.82

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.84	\$13.00	\$0.42	\$0.00	\$27.26
2	40	\$13.84	\$13.00	\$0.42	\$0.00	\$27.26
3	45	\$15.57	\$13.00	\$10.88	\$0.00	\$39.45
4	45	\$15.57	\$13.00	\$10.88	\$0.00	\$39.45
5	50	\$17.30	\$13.00	\$11.14	\$0.00	\$41.44
6	55	\$19.03	\$13.00	\$11.39	\$0.00	\$43.42
7	60	\$20.76	\$13.00	\$11.65	\$0.00	\$45.41
8	65	\$22.49	\$13.00	\$11.90	\$0.00	\$47.39
9	70	\$24.22	\$13.00	\$12.17	\$0.00	\$49.39
10	75	\$25.95	\$13.00	\$12.43	\$0.00	\$51.38

Notes:

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2015	\$47.90	\$10.18	\$18.50	\$0.00	\$76.58
	08/01/2015	\$48.80	\$10.18	\$18.57	\$0.00	\$77.55
	02/01/2016	\$49.37	\$10.18	\$18.57	\$0.00	\$78.12
	08/01/2016	\$50.27	\$10.18	\$18.65	\$0.00	\$79.10
	02/01/2017	\$50.84	\$10.18	\$18.65	\$0.00	\$79.67

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$10.18	\$18.50	\$0.00	\$52.63
2	60	\$28.74	\$10.18	\$18.50	\$0.00	\$57.42
3	70	\$33.53	\$10.18	\$18.50	\$0.00	\$62.21
4	80	\$38.32	\$10.18	\$18.50	\$0.00	\$67.00
5	90	\$43.11	\$10.18	\$18.50	\$0.00	\$71.79

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$18.57	\$0.00	\$53.15
2	60	\$29.28	\$10.18	\$18.57	\$0.00	\$58.03
3	70	\$34.16	\$10.18	\$18.57	\$0.00	\$62.91
4	80	\$39.04	\$10.18	\$18.57	\$0.00	\$67.79
5	90	\$43.92	\$10.18	\$18.57	\$0.00	\$72.67

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER LABORERS - FOUNDATION AND MARINE	12/01/2014	\$35.95	\$7.30	\$13.15	\$0.00	\$56.40
	06/01/2015	\$36.70	\$7.30	\$13.15	\$0.00	\$57.15
	12/01/2015	\$37.45	\$7.30	\$13.15	\$0.00	\$57.90
	06/01/2016	\$38.20	\$7.30	\$13.15	\$0.00	\$58.65
	12/01/2016	\$39.20	\$7.30	\$13.15	\$0.00	\$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER LABORERS - FOUNDATION AND MARINE	12/01/2014	\$34.67	\$7.30	\$13.15	\$0.00	\$55.12
	06/01/2015	\$35.42	\$7.30	\$13.15	\$0.00	\$55.87
	12/01/2015	\$36.17	\$7.30	\$13.15	\$0.00	\$56.62
	06/01/2016	\$36.92	\$7.30	\$13.15	\$0.00	\$57.37
	12/01/2016	\$37.92	\$7.30	\$13.15	\$0.00	\$58.37

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER LABORERS - FOUNDATION AND MARINE	12/01/2014	\$34.55	\$7.30	\$13.15	\$0.00	\$55.00
	06/01/2015	\$35.30	\$7.30	\$13.15	\$0.00	\$55.75
	12/01/2015	\$36.05	\$7.30	\$13.15	\$0.00	\$56.50
	06/01/2016	\$36.80	\$7.30	\$13.15	\$0.00	\$57.25
	12/01/2016	\$37.80	\$7.30	\$13.15	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$32.17	\$9.91	\$9.33	\$0.00	\$51.41
	06/01/2015	\$32.52	\$9.91	\$9.33	\$0.00	\$51.76
	08/01/2015	\$32.52	\$10.41	\$9.33	\$0.00	\$52.26
	12/01/2015	\$32.52	\$10.41	\$10.08	\$0.00	\$53.01
	06/01/2016	\$33.02	\$10.41	\$10.08	\$0.00	\$53.51
	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2014	\$46.83	\$7.30	\$13.55	\$0.00	\$67.68
	06/01/2015	\$47.58	\$7.30	\$13.55	\$0.00	\$68.43
	12/01/2015	\$48.33	\$7.30	\$13.55	\$0.00	\$69.18
	06/01/2016	\$49.08	\$7.30	\$13.55	\$0.00	\$69.93
	12/01/2016	\$50.08	\$7.30	\$13.55	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2014	\$48.83	\$7.30	\$13.55	\$0.00	\$69.68
	06/01/2015	\$49.58	\$7.30	\$13.55	\$0.00	\$70.43
	12/01/2015	\$50.33	\$7.30	\$13.55	\$0.00	\$71.18
	06/01/2016	\$51.08	\$7.30	\$13.55	\$0.00	\$71.93
	12/01/2016	\$52.08	\$7.30	\$13.55	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2014	\$38.90	\$7.30	\$13.55	\$0.00	\$59.75
	06/01/2015	\$39.65	\$7.30	\$13.55	\$0.00	\$60.50
	12/01/2015	\$40.40	\$7.30	\$13.55	\$0.00	\$61.25
	06/01/2016	\$41.15	\$7.30	\$13.55	\$0.00	\$62.00
	12/01/2016	\$42.15	\$7.30	\$13.55	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2014	\$40.90	\$7.30	\$13.55	\$0.00	\$61.75
	06/01/2015	\$41.65	\$7.30	\$13.55	\$0.00	\$62.50
	12/01/2015	\$42.40	\$7.30	\$13.55	\$0.00	\$63.25
	06/01/2016	\$43.15	\$7.30	\$13.55	\$0.00	\$64.00
	12/01/2016	\$44.15	\$7.30	\$13.55	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2014	\$31.59	\$9.91	\$9.33	\$0.00	\$50.83
	06/01/2015	\$31.94	\$9.91	\$9.33	\$0.00	\$51.18
	08/01/2015	\$31.94	\$10.41	\$9.33	\$0.00	\$51.68
	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2014	\$30.90	\$7.30	\$12.30	\$0.00	\$50.50
	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12 (Local 138)</i>	03/01/2015	\$46.13	\$10.32	\$14.89	\$0.00	\$71.34
	09/01/2015	\$47.13	\$10.32	\$14.89	\$0.00	\$72.34
	03/01/2016	\$48.28	\$10.32	\$14.89	\$0.00	\$73.49
	09/01/2016	\$49.33	\$10.32	\$14.89	\$0.00	\$74.54
	03/01/2017	\$50.33	\$10.32	\$14.89	\$0.00	\$75.54
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

SECTION 004200 - BID ACCEPTANCE FORM - ORDER TO PROCEED

A. Acceptance

1. The foregoing proposal of Partial Roof Replacement at Perley Elementary School in Goergetown, MA dated _____ in the amount of _____ Dollars (\$ _____) is hereby accepted as of _____.

B. Order to Proceed

1. The Proceed date is established as _____.

By: _____

For Georgetown School Committee

Attest:

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

CONTRACT DOCUMENTS

**TOWN OF GEORGETOWN
CONTRACT FOR
Partial Roof Replacement at Perley Elementary School**

This Contract is made this ____ day of _____, 2015 by and between the Georgetown Public Schools, acting through its School Committee, (hereinafter, the “District”), and ,

A corporation with a business address at _____ ,
_____ (hereinafter, the “Contractor”).

**ARTICLE I
SCOPE OF SERVICES**

The Contractor shall furnish such material, equipment and labor as are necessary to perform the work, including the Partial Roof Replacement at Perley Elementary School, 51 North Street, Georgetown, MA 01833 in accordance with the bid specifications contained in an Invitation for Bid (IFB) issued by the District on Wednesday, June 17, 2015 which IFB is incorporated herein in full. Contract documents shall include, in addition to said IFB, all documents referenced in Section II of the IFB, all of which are incorporated herein by reference.

**ARTICLE II
TIME OF CONTRACT**

The Contractor shall commence work under this contract after receipt of a Notice to Proceed and shall prosecute the work in such manner as to ensure substantial completion of all work by November 24, 2015. The parties hereto agree that time is of the essence of this contract.

**ARTICLE III
COMPENSATION**

(1) Contract Sum. The District shall pay the Contractor in current funds for the performance of the work, subject to additions and deductions by amendment as provided herein, the Contract Sum of _____ and ___/100 dollars (\$ _____). Progress payment will be made subject to approval of the Director of Buildings and Grounds.

ARTICLE IV
AFFIRMATIVE ACTION/PREVAILING WAGES

(1) The parties hereto agree that it shall be material breach of this contract for the Contractor to engage in any practice which shall violate any provision of Massachusetts General Laws, Chapter 151B, relative to discrimination in hiring, discharge, compensation, or terms, conditions or privileges of employment because of race, color, religion, sex, national origin, ancestry, age, sexual orientation or disability.

(2) This Contract shall be subject to the Minimum Wage Schedule, as determined by the Commission of Labor and Industries pursuant to the provisions of Chapter 149, Section 26 to 27D inclusive, of the General Laws concerning wages.

ARTICLE V
COMPLIANCE WITH LAWS

The Contractor shall comply with all Federal, State and local laws, rules, regulations, and orders applicable to the work provided pursuant to this Contract, and shall be responsible for obtaining all necessary licenses, permits, and approvals.

ARTICLE VI
INCORPORATION OF GENERAL LAWS

This Contract shall be considered to include all terms required to be included by the General Laws of the Commonwealth of Massachusetts, as amended, and any other laws as though such terms were set forth in full herein, to the extent that the same are applicable to this contract and the Contractor.

ARTICLE VII
INDEPENDENT CONTRACTOR

The Contractor acknowledges and agrees that it is acting as an independent contractor for all work and services rendered pursuant to this Contract.

ARTICLE VIII

DISTRICT'S LIABILITY

The District's liability under this Contract shall be to make all payments when they shall become due, and the District shall be under no further obligation or other liability. Nothing in this Contract shall be construed to render the Superintendent of Schools, the School Committee, or any other officer of the Town, or their successors in office, personally liable for any obligation under this contract.

ARTICLE IX INDEMNIFICATION

The Contractor shall indemnify and hold harmless the District, its officers, boards, agents and employees from any loss, damage, cost, charge, expense or claim for injury to person or property, which may be made as a result of any act, omission or default on the part of the Contractor, or any of its agents or employees and will pay promptly on demand all costs and expenses of the investigation thereof, including attorney's fees and expenses. If any such claim is made, the District may retain out of any payments, there or thereafter due to the Contractor, a sufficient amount to protect the District against such claim, costs and expenses.

ARTICLE X INSURANCE

The Contractor shall obtain and maintain during the term of this Contract the following insurance coverage in companies qualified to do business in the Commonwealth of Massachusetts, and acceptable to the Town.

A. Commercial General Liability Insurance as follows:

Commercial General Liability Insurance company qualified to do business in the Commonwealth of Massachusetts and acceptable to the District, providing a limit of liability of not less than \$1,000,000 per occurrence and general aggregate. Such insurance is to include the following extension of coverage.

- 1.) Contractual Liability- \$1,000,000 per occurrence
- 2.) Premises Operation Liability- \$1,000,000 per occurrence
- 3.) Independent Contractors Liability- \$1,000.00 per occurrence

- 4.) Explosion, Collapse and Underground Property Damage- \$1,000,000 per occurrence
- 5.) Personal Liability- \$1,000,000 per occurrence
- 6.) Products Liability- \$1,000,000 per occurrence

B Workmen's Compensation Insurance- The Contractor shall furnish the District with certificates of insurance showing that all his/her employees who shall be connected with this work are protected under Workmen's Compensation Policies.

- 1.) Coverage A- Massachusetts
- 2.) Coverage B- \$500,000 per insuring agreement

C The District and CBI Consulting Inc. shall be identified as an additional insured with waiver of subrogation under the Contractor's general liability policy. All policies shall provide that the District shall receive written notification at least 30 days prior to the effective date of any amendment or cancellation. Certificates evidencing all such coverage shall be provided to the District at the execution of this contract. Each such certificate shall specifically refer to the Contract and shall state that such insurance shall be deemed a material breach of the Contract and shall be grounds for immediate termination.

ARTICLE XI

PERFORMANCE BOND/PAYMENT BOND

The Contractor shall furnish a Performance Bond and a Payment Bond in a form and with a surety company approved by the District and authorized to do business in the Commonwealth of Massachusetts, conditioned upon the Contractor fully performing all his obligations under this Contract, and making full payment for all labor performed or furnished in the work. The penal sum of the bonds shall be the full amount 100% of the Contract price, including all services of whatever kind required thereby. Failure to provide such performance bond shall be grounds for termination.

ARTICLE XII

ASSIGNMENT

The Contractor shall not assign, sublet or otherwise transfer the work required under this Contract, in whole or in part, without the prior written consent of the District, and shall not, either

legally or equitable assign any of the moneys payable under this Contract, except by and with the written consent of the District.

ARTICLE XIII
INSPECTION AND REPORTS

The District shall have the right at any time to inspect the work of the Contractor, including the right to enter upon any property owned or occupied by the Contractor, whether situated within or beyond the limits of the Town. Whenever requested, the Contractor shall immediately furnish to the District full and complete written reports of his operations under this Contract in such detail and with such information as the District may request.

ARTICLE XIV
TERMINATION FOR CAUSE

If at any time during the term of this contract the District determines that the Contractor has breached the terms of this Contract by negligently or incompetently performing the work, or any part thereof, or by failing to perform the same, to the satisfaction of the District, or by not complying with the direction of the District or its agents, or by otherwise failing to perform this Contract in accordance with all of its terms and provisions, the District shall notify the Contractor in writing stating therein the nature of the alleged breach and directing the Contractor to cure said breach within ten (10) days. The Contractor specifically agrees that it shall indemnify and hold harmless the District as provided in Article IX from any loss, damage, cost, charge, expense, or claim arising out of our resulting from such breach regardless of its knowledge or authorization of the actions resulting in the breach. If the Contractor fails to cure said breach within ten (10) days, the District may, at its election at any time after the expiration of said ten (10) days, terminate this Contract by giving written notice thereof to the Contractor specifying the effective date of the termination. Upon the date so specified, this contract shall terminate. Such termination shall not prejudice or waive any rights or action which the District may have against the Contractor because of any default or failure in performance of this Contract up to the date of such termination, and the Contractor shall be liable to the District for any amount which it may be required to pay in excess of the Contract Sum provided herein in order to complete the work specified herein in a timely manner.

ARTICLE XV
NOTICE

Any and all notices, or other communications required or permitted under this contract, shall be in writing and delivered by hand or mailed postage prepaid, return receipt requested, by registered or certified mail or by other reputable delivery service, to the parties at the addresses set forth on Page 1 furnished from time to time in writing hereafter by one party to the other party.

Any such notice or correspondence shall be deemed given when so delivered by hand, if so mailed, when deposited with the U.S. Postal Service or, if sent by private overnight or other delivery service, when deposited with such delivery service.

ARTICLE XVI
SEVERABILITY

If any term or condition of this contract or any application thereof shall to any extent be held invalid, illegal or unenforceable by a court of competent jurisdiction, the validity, legality, and enforceability of the remaining terms and conditions of this contract shall not be deemed affected thereby unless one or both parties would be substantially or materially prejudiced.

ARTICLE XVII
GOVERNING LAW

This contract shall be governed by, constructed and enforced in accordance with the laws of the Commonwealth of Massachusetts and the Contractor submits to the jurisdiction of any of its appropriate courts for the adjudication of disputes arising out of this contract.

ARTICLE XVIII
PAYMENT FOR DAMAGES

The Contractor shall pay to the District all expenses, losses and damages, as determined by the District, incurred in consequences of any misfeasance, omission or mistake of the Contractor or his employees or the making good thereof and it is further agreed that damages to the District will result from a failure by the Contractor in the bid submission. All damages referred to in this section may be deducted by the District from any payment then or thereafter due to the Contractor.

ARTICLE XVIII
ENTIRE AGREEMENT

This contract, including all documents herein by reference, constitutes the entire integrated agreement between parties with respect to the matters described. This agreement supersedes all prior agreements, negotiations and representations, either written or oral, and it shall not be modified or amended except by a written document executed by the parties hereto.

CONTRACTOR:

GEORGETOWN PUBLIC SCHOOLS:

Barbie Linares, Chair

Georgetown School Committee

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company:

(Corporate Seal)

Company:

(Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

Signature: _____

Name and Title: _____

Address: _____

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company:

(Corporate Seal)

Company:

(Corporate Seal)

Signature: _____

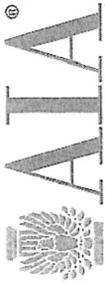
Signature: _____

Name and Title: _____

Name and Title: _____

Address: _____

Address: _____



AIA Document G702™ - 1992

Application and Certificate for Payment

TO OWNER: PROJECT: APPLICATION NO: 001 Distribution to: OWNER: ARCHITECT: CONTRACTOR: FIELD: OTHER:

PERIOD TO: CONTRACT FOR: General Construction

CONTRACT DATE: CONTRACTOR: PROJECT NOS: / /

FROM VIA ARCHITECT: CONTRACTOR:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

- 1. ORIGINAL CONTRACT SUM \$ 0.00
- 2. Net change by Change Orders \$ 0.00
- 3. CONTRACT SUM TO DATE (Line 1 ± 2) \$ 0.00
- 4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ 0.00
- 5. RETAINAGE:
 - a. 0 % of Completed Work (Column D + E on G703) \$ 0.00
 - b. 0 % of Stored Material (Column F on G703) \$ 0.00
- Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$ 0.00
- 6. TOTAL EARNED LESS RETAINAGE \$ 0.00 (Line 4 Less Line 5 Total)
- 7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ 0.00 (Line 6 from prior Certificate)
- 8. CURRENT PAYMENT DUE \$ 0.00
- 9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ 0.00	\$ 0.00
Total approved this Month	\$ 0.00	\$ 0.00
TOTALS	\$ 0.00	\$ 0.00
NET CHANGES by Change Order	\$	0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____
 State of: _____
 County of: _____
 Subscribed and sworn to before me this _____ day of _____

Notary Public:

My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 0.00
 (Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____
 This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract

AIA[®] Document G703[™] - 1992

Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT,

APPLICATION NO: 001

containing Contractor's signed certification is attached.

APPLICATION DATE:

In tabulations below, amounts are stated to the nearest dollar.

PERIOD TO:

Use Column I on Contracts where variable retainage for line items may apply.

ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		E THIS PERIOD	F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H BALANCE TO FINISH (C - G)	I RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	0.00 %	\$ 0.00	\$ 0.00
	GRAND TOTAL	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	0.00 %	\$ 0.00	\$ 0.00



AIA[®] Document G704[™] – 2000

Certificate of Substantial Completion

PROJECT: <i>(Name and address):</i>	PROJECT NUMBER: /	OWNER: <input type="checkbox"/>
	CONTRACT FOR: General Construction	ARCHITECT: <input type="checkbox"/>
	CONTRACT DATE:	CONTRACTOR: <input type="checkbox"/>
TO OWNER: <i>(Name and address):</i>	TO CONTRACTOR: <i>(Name and address):</i>	FIELD: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty	Date of Commencement
-----------------	-----------------------------

_____	BY _____	_____
ARCHITECT		DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: \$ 0.00

The Contractor will complete or correct the Work on the list of items attached hereto within Zero (0) days from the above date of Substantial Completion.

_____	BY _____	_____
CONTRACTOR		DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at _____ (time) on _____ (date).

_____	BY _____	_____
OWNER		DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)



AIA[®] Document G715[™] – 1991

Supplemental Attachment for ACORD Certificate of Insurance 25-S

(This document replaces AIA Document G705, Certificate of Insurance.)

PROJECT (Name and address): _____

INSURED _____

	Yes	No	N/A
A. General Liability			
1. Does the General Aggregate apply to this Project only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does this policy include coverage for:			
a. Premises - Operations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Explosion, Collapse and Underground Hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Personal Injury Coverage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Products Coverage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Completed Operations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Contractual Coverage for the Insured's obligations in A201?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. If coverage is written on a claims-made basis, what is the:			
a. Retroactive Date?			
b. Extended Reporting Date?			
B. Worker's Compensation			
1. If the Insured is exempt from Worker's Compensation statutes, does the Insured carry the equivalent Voluntary Compensation coverage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Final Payment Information			
1. Is this certificate being furnished in connection with the Contractor's request for final payment in accordance with the requirements of Sections 9.10.2 and 11.1.3 of AIA Document A201, General Conditions of the Contract for Construction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If so, and if the policy period extends beyond termination of the Contract for Construction, is Completed Operations coverage for this Project continued for the balance of the policy period?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Termination Provisions			
1. Has each policy shown on the certificate and this Supplement been endorsed to provide the holder with 30 days notice of cancellation and/or expiration? List below any policies which do not contain this notice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Other Provisions			

Authorized Representative

Date of Issue

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

SECTION 006600 - GENERAL RELEASE AND WAIVER OF LIEN

NAME: _____
(Contractor)

ADDRESS: _____

To: Superintendent of School's Office
Carol Jacobs, Superintendent
51 North Street
Georgetown, Massachusetts 01833

Date: _____

Project: Partial Roof Replacement At
Perley Elementary School
Georgetown, Massachusetts

We, the undersigned, in consideration of payments made to us, hereby waive and release all actions, debts, claims, and demands against _____ (General Contractor) and the Georgetown School Committee, on account of all work, services, equipment, and materials performed or furnished by us in connection with the construction of a building, improvements, and facilities on real property owned by The Georgetown School Committee and in connection with the roofing repairs of the building, or pursuant to our contract, dated _____ made with the Georgetown School Committee, and amendments and change orders thereto; and

We hereby waive and release any mechanics', materialman's, or like lien, and all rights to file any such lien in the future, against said real property on account of said work, services, equipment and materials performed or furnished by us.

Date: _____

By: _____

Title: _____

(Seal)



AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

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

THE OWNER:
(Name and address)

THE ARCHITECT:
(Name 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. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

INDEX

(Numbers and Topics 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, 13.7.1, 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, 9.7.1, 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, 6.3.1, 7.1.2, 7.3.7, 7.4, 9.2.1, 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, 7.4.1, 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, 3.5.1, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5.1, 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, 6.3.1, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2.1, 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, 3.5.1, 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

9.7.1, 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, 9.7.1, 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, 6.3.1, 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, 3.7.46.1.1, 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, The
1.1.1

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, 9.7.1, 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, 3.5.1, 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, 3.5.1, 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, 9.2.1, 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, 3.5.1, 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

Defective Work, Definition of

3.5.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5.1, 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, 7.4.1, 8.3, 9.5.1, 9.7.1, 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Disputes

6.3.1, 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, 3.5.1, 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, 3.5.1, 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, 7.4.1, 9.5.1, 9.7.1, 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

3.17.1, 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, 11.2.1, 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, 11.4.1.4

INSURANCE AND BONDS

11

Insurance Companies, Consent to Partial Occupancy

9.9.1, 11.4.1.5

Insurance Companies, Settlement with

11.4.10

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, 3.5.1, 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, 3.5.1, 3.12.10, 3.17.1, 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, 11.2.1, 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, 9.2.1, 9.3.1,

9.3.3, 9.4.1, 9.5, 9.6, 9.7.1, 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

Init.

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:23:50 on 09/09/2008 under Order No.1000365945_1 which expires on 7/30/2009, and is not for resale.

User Notes:

(1868913755)

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, 3.5.1, 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, 9.7.1,
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, 3.5.1, 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,
9.7.1, 9.10, 10.2.2, 11.1.3, 11.4.6, 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, 9.7.1,
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, 4.5, 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, 11.2.1, 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, 6.3.1,
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 Loss of Use Insurance
11.3.3

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, 3.17.1,
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, 9.2.1, **9.3**, 9.4, 9.5, 9.6.3, 9.7.1, 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, 9.7.1, 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, 11.4.5,
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, 11.4.9, **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, 11.4.8,
14.2.1.2
PCB
10.3.1
Performance Bond and Payment Bond
7.3.7.4, 9.6.7, 9.10.3, 11.4.9, 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 the
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
3.5.1, 4.2.6, 12.2.1
Releases and Waivers of Liens
9.10.2
Representations
3.2.1, 3.5.1, 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, 3.5.1, 3.7.4, 3.15.2, 4.2.6, 4.5, 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
1.4.1.2, 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, 11.4.7,
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 the
1.1.6
Specifications, The
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, 11.4.1.4
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, 11.4.7, 11.4.8,
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, 11.4.5, **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, 3.5.1, 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, 11.4.9, 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, 7.4.1, **8.3**, 9.5.1, 9.7.1, 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, 4.4, 4.5, 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, 11.4.1.5, 11.4.6, 11.4.10, 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, 11.4.7, 13.4.2, 15.1.6

Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 11.4.3, 11.4.5, 11.4.7, 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, 11.4.5, **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, 11.4.6, 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, 11.4.9, 12.1, 12.2, 13.5.2,
14.3.1, 15.1.2



Init.

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.

Init.

§ 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 responsively 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

Init.

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:23:50 on 09/09/2008 under Order No.1000365945_1 which expires on 7/30/2009, and is not for resale.

User Notes:

(1868913755)

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.

Init.

§ 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

Init.

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.

Init.

§ 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.

Init.

§ 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.



Init.

/

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

SECTION 008510 –DRAWING LIST

1.01 Drawings (All drawings are 24” x 36”).

PERLEY ELEMENTARY SCHOOL

ARCHITECTURAL

G0-01 COVER SHEET
L1-01 SITE PLAN
D1-01 PARTIAL ROOF DEMOLITION PLAN
A1-01 PARTIAL ROOF PLAN
A2-01 TYPICAL ROOF DETAILS
A2-02 TYPICAL ROOF DETAILS
A2-03 TYPICAL ROOF DETAILS
A2-04 TYPICAL ROOF DETAILS & PHOTOS
A3-01 MASONRY CHIMNEY ELEVATIONS, DETAILS &
PHOTOS

END OF SECTION

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

TECHNICAL SPECIFICATIONS

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 01 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. In general, at Perley Elementary School, the work includes but is not limited to:
 - 1. Remove and dispose of all existing roofing at roof areas A and O, including all existing EPDM membrane, insulation, edge metal, sealants and other associated roofing components down to tongue and groove wood deck to remain.
 - 2. Remove and dispose of existing roof access hatch and existing membrane flashing down to existing wood blocking curb to remain, at roof area A .
 - 3. Remove and dispose of all existing Slate roofing at roof areas B through N, including all existing Slate shingles, felt building paper, copper valley flashing, copper ridge cap, step flashing, sealants and other associated roofing components down to tongue and groove wood deck to remain.
 - 4. Remove and dispose of all existing copper gutter liner, copper counter flashing and snow guards at roofing areas B through N eaves.

SUMMARY OF WORK

5. Inspect existing tongue and groove wood decking and replace deteriorated wood decking to match existing. Refer to Unit Price Schedule for Quantities.
 6. Install new 80 mil PVC roofing system, complete with membrane, tapered rigid insulation, 1-1/2" min. with a 1/4":12" taper, cover boards, and vapor barrier at roof areas A and O. Include all blocking, edge metal, counter flashing, trim, sealants and accessories required for a complete watertight installation.
 7. Install new 36" x 36" rough opening access hatch, new wood blocking and plywood, at roof area A.
 8. Install new 12" x 18" Slate shingle roofing system, complete with 30# building felt, lapped 50%, and ice and water membrane at roof areas B through N. Include all blocking, valley flashing, ridge caps, step flashing and sealants required for a complete watertight installation.
 9. Install new copper gutter liner with fully soldered, flat seam copper flashing with fully soldered seams, ice and water shield.
 10. Install copper pad style snow guards and brass heavy duty snow guards at roofing areas B through N eaves.
- B. Supply all shoring, staging and protection necessary to protect the building area, building systems, parking areas, and occupants.
- C. The Contractor is hereby notified that the buildings are Georgetown Public Schools and will be occupied during construction. CORI forms will be required. The Contractor shall take all precautions and install all protections to safeguard the lives of the occupants of and visitors. All means and methods are the responsibility of the Contractor. The Contractor is solely responsible for safety on the job site.

1.03 WORKING HOURS

- A. The intent of the specifications is that required work shall be performed with a minimum of interference with the public and the Owner's operations. To achieve this end, the Contractor shall prosecute the work to its completion as soon as possible with full crews of workers during working hours specified herein.
1. Regular working hours for work are defined as from 7:00 AM to 5:00 PM on week days.
 2. Student drop off and pick up time trafficking restrictions will be in effect from the hours of 8:30 AM to 9:30 AM in the morning and 2:30 PM to

3:30 PM in the afternoon. During these hours, contractor will be restricted from any vehicular transportation around the job site.

1.04 SITE CLEANING AND MAINTENANCE

- A. Before the start of the work it is required that an inspection be made to determine the existing conditions of the site around the work areas, including areas outside of the site boundaries in which operations of the Contractor may occur. The Contractor shall be responsible for documenting existing conditions in sufficient manner as to identify any areas of the site that are damaged but not included in the Contractor's scope to remedy.
- B. Unless otherwise specified in the various technical specification sections, the Contractor shall take all necessary precautions to prevent the spreading of dirt and dust throughout the areas of the work and other areas of the building. During demolition and other work, Contractor shall take all measures necessary to contain dust and other debris from the work within the limits of the work area under the Contractor's control. Contractor shall be responsible for promptly cleaning up all dirt, dust and debris escaping from the work areas or dropped from vehicles traveling to and from the work. All vehicles used for removal of material from the site shall be equipped with covers, in good condition, adequate to provide all facilities for preventing spread of objectionable materials including asbestos, lead, or other matter, and all other means necessary.
- C. Prior to Substantial Completion and to Final Completion of the Contract, the Contractor shall remove all spots, stains, dirt and dust from all surfaces outside of the worksite, including areas within other buildings and any portion of property of others, which were the result of the work of this project to the satisfaction of the Owner. The worksite shall be left in new condition.
- D. Any damage to the adjacent properties and/or Owner's property caused by the Contractor or his Subcontractors shall be corrected by the Contractor, as directed by the Architect/Designer, and the expense of the Contractor.
- E. The Contractor shall provide cleaning as specified in Section 01520 CLEANING UP.

1.05 INTENT OF THE PROJECT MANUAL

- A. Whenever "Furnish", "Install", or "Provide" is used in the Contract Documents, it shall mean to erect, install, connect, make operative, and supply all labor and materials, including miscellaneous fittings and accessories necessary to complete the installation of the specified item.

- B. All the work of the project is “related” in some fashion either by direct contract, sequencing, or coordination. It is the Contractor’s responsibility to perform all the work and coordinate all the various trades and types of “related” work in order to meet the schedule and quality standards of the Project.
- C. Means and methods of construction as well as compliance with OSHA and all other safety laws and regulations is the exclusive responsibility of the Contractor, his Subcontractors, suppliers, consultants, and servants. The Architect does not have control of the job site.

1.06 ERRORS, OMISSIONS, AND CONFLICTS IN THE PROJECT MANUAL

- A. In the case of conflicts in the Drawings and the Specifications noticed by the Contractor, CBI shall be notified immediately in writing of such errors and/or omissions. In no case shall the Contractor proceed without written authorization from CBI.

1.07 UNFORESEEN FIELD CONDITIONS

- A. In the case of unforeseen field conditions, the Contractor shall notify the Owner and CBI immediately in writing of such conditions. In no case shall the Contractor proceed without written authorization from CBI. If such unforeseen conditions result in additional expense, the Contractor shall not proceed without the written approval of the Owner.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 010200

UNIT PRICES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. The Unit Prices for items set forth in the Schedule of Unit Prices shall be used to determine adjustments to the Contract Sum when changes in the Work involving said items are made in accordance with Article 8 of the General Conditions and other sections of the Contract Documents.
- B. Unit Prices listed under ADDITIONS have been computed to include net cost plus overhead, profit, and bond and all other charges required to complete the work item.
- C. Unit Prices net cost includes the cost of all labor, materials, equipment, disposal, and all other costs required to complete the work item.
- D. Materials, methods of installation, and definitions of terms set forth under the various Unit Price items in the Schedule of Unit Prices shall be as indicated in the Contract Documents.
- E. Unit costs will not be adjusted if the quantities approved in the field by the Architect vary from the base contract quantities listed in the Project Manual.

1.02. APPLICABILITY OF UNIT PRICES

- A. The payment lines shall be determined in the field by the Architect.
- B. Unit Prices are for more work or less work than is included in the base contract for the various tasks included. Quantities to be included in the base contract are listed in the Unit Price Schedule.
- C. Prior to commencing removal or placement of materials set forth in the Schedule of Unit Prices, the Contractor shall notify the Architect in sufficient time to permit proper measurements to be taken on behalf of the Owner. Only quantities which have been approved in writing by the Architect will be considered in the determination of adjustments to the Contract Sum. Unit costs shall include the pro rata share of all costs associated with doing the work, including staging, insurance, overhead, and profit, as well.
- D. Performance of Work which is not required under the Contract Documents or which is not authorized by Change Order, whether or not such Work item is set forth hereunder as a Unit Price item, shall not be considered cause for extra

payment. The Contractor will be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Architect.

E. See attached Unit Price Schedule.

UNIT PRICE SCHEDULE

#	DESCRIPTION OF WORK	UNIT	BASE BID QUANTITY	REFERENCE DETAILS	ADD / DEDUCT PRICE (Insert only one number)
1	Tongue and Groove Wood Deck Replacement	SF	50		

F. *Indicates that the quantity listed is in addition to all the scope areas noted on the plans.

G. The Owner reserves that right to increase or decrease the unit cost quantities without any adjustment in the unit costs.

H. Unit costs include pro-rata share of Contractor's, general conditions, staging, insurance, bond, overhead, and profit, etc.

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 03 00

SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 BIDDERS EXAMINATION AND INSPECTION OF EXISTING BUILDING AND SITE

- A. All bidders must inspect the existing site and make their own assessment of the work required to achieve the complete, finished conditions specified in the Contract Documents.
- B. Failure to adequately inspect the site and/or correctly assess existing conditions shall not be cause for additional payment.
- C. Every Contractor will be bound by the scope of work of the Contract Documents and shall make the inspections necessary to assure that the bid price includes the complete scope.

1.03 CONTRACTOR USE OF THE BUILDINGS, ACCESSIBILITY AND SCHEDULES FOR WORK

- A. The work of the Contractor and all Subcontractors shall be performed during the hours of operation as specified herein and in and around areas of the building and site used while occupied by the Owner and the public. The Contractor shall

SPECIAL PROJECT PROCEDURES

execute the Work with the least possible disturbance to the use and continuous functioning of the site and building. The Contractor and each Subcontractor take all necessary measures to assure the safety of the staff, visitors, and the general public. The General Contractor is solely responsible for safety on the job site including securing and making safe all construction areas during construction hours as well as during non-construction hours.

B. Site Use

1. Between the time period of the general bid due date and Construction Commencement, the Contractor shall take all necessary measures to complete the Work of this Contract. It is expected that the Contractor utilize the time period between the bid date and construction start date to schedule and coordinate the work and work sequence, prepare shop drawings and submittals for approval and order materials. The Owner shall issue a Notice to Proceed.
2. The Contractor shall be responsible for providing any and all measures and/or temporary construction required to control the transmission of dust, particles, and fumes from construction activities.
3. The Contractor shall be responsible on a daily basis for informing the designated Owner's representative of all persons on-site that day associated with the Work. The Contractor shall establish a daily reporting system of all activities which is acceptable to the Owner.
4. The Construction schedule shall indicate the dates for start and completion of each work item or task required with all milestones using a Bar Chart subject to approval by the Architect.
5. The Awarding Authority's review of the project construction schedule shall not extend to the accuracy or other matters dealt with in the schedule, including but not limited to whether work is omitted, whether duration of activity is reasonable, the level of labor, materials or equipment, the Contractor's means, methods, techniques, procedures or sequence of construction, or whether the sequence and timing for work remaining are practical. The accuracy, correctness of all work, sequencing, schedules shall remain the sole responsibility of the Contractor. Neither the Awarding Authority's review of a schedule nor a statement of resubmittal not required shall relieve the Contractor for the responsibility for complying with the contract schedule, adhering to sequences of work, or from completing any omitted work with the Contract Time.
6. The Contractor shall provide, erect and maintain barricades with any required egress, access doors, lighting, ventilation, guard rails and all other

appurtenances required to protect the general public, visitors, staff, and workers while construction is in progress. Safety is the sole responsibility of the Contractor on the job site.

1.04 HOUSEKEEPING AND PROTECTION OF EXISTING CONDITIONS

- A. Maintain the premises in a safe, orderly condition at all times. Protect construction, furnishings, equipment and other items.
- B. Property Protection: The General Contractor shall take all measures necessary to protect the Owner's property.
- C. Security: The General Contractor shall take every possible precaution to maintain the security of the buildings and site. The Contractor shall cooperate with the Owner fully and follow the Owner's directions as issued. The Contractor shall control and restrict access to areas of work to prevent injury to persons and property.
- D. The Contractor shall properly cover, protect and maintain finished surfaces to prevent damage. Replace protective coverings which become wet, torn or ineffective.
- E. Correction by the Contractor
 - 1. At no additional cost to the Owner, the General Contractor shall immediately correct all deficiencies, including damages to the building, site and site surfaces, damages to furnishings, damages to equipment or systems, damage to adjacent properties, and all other damage caused by the General Contractor or its Subcontractors during the execution of the Work of this Contract. Any and all damages resulting from inadequate, insufficient or defective temporary protections installed by the Contractor during the work of this Contract, shall be corrected by the General Contractor at no additional cost to the Owner.

1.05 REQUIREMENTS RELATED TO BUILDING USERS' FURNISHINGS, EQUIPMENT AND OTHER ITEMS

- A. The General Contractor is responsible for protecting all furnishings, equipment and items from damage (including construction generated dust) during the entire construction period.

1.06 DUST, DIRT, AND FUME CONTROL

- A. The Contractor shall take all necessary precautions and provide all necessary temporary construction to effectively contain dust, dirt and fumes within the areas

of work and within the work limits. Temporary construction shall be provided to effectively prevent dust and dirt from entering areas of the buildings or adjacent buildings, satisfying all City, State and Federal laws, codes, and requirements.

1.07 RUBBISH REMOVAL

- A. The Contractor shall remove all rubbish, waste, tools, equipment and appurtenances caused by and used in the execution of the Work; but this shall in no way be construed to relieve the Contractor of his primary responsibility for maintaining the building and Project site clean and free of debris, leaving all work in a clean condition and satisfactory to the Official.
- B. Immediately after unpacking, the Contractor shall collect and remove from the building and Project site all packing materials, case lumber, excelsior, wrapping and other rubbish.
- C. Rubbish removal shall occur so that trash and debris are contained in closed and secured waste containers.

1.08 CLEANING AND POLISHING

- A. The Contractor shall at all times keep the building and Project site free from accumulation of waste materials or rubbish.
- B. Immediately prior to final inspection, the entire building and surrounding Project areas shall be thoroughly cleaned by the Contractor including, without limitation:
 - 1. All construction facilities, tools, equipment, surplus materials, debris and rubbish shall be removed from the Project site and the entire Work shall be left broom clean.
 - 2. All finished surfaces shall be left in perfect condition, free of stains, spots, marks, dirt, and other defects. The Contractor shall be responsible for the cleaning and polishing of the Work of all trades, whether or not cleaning by such trades is included in their respective Selection of the Specifications.
 - 3. All glass affected by the work shall be washed and polished on both sides.
 - 4. All metals, hardware, fixtures, and equipment shall be left in undamaged, bright, polished condition.

5. Plenums, duct spaces and furred spaces shall be protected at all times from fumes, particles and other air-borne construction effects. These building spaces shall be left clean of debris and decayable materials.
 6. Equipment and building systems located in areas of construction shall be cleaned and tested and made perfectly operational to the satisfaction of the Owner prior to Substantial Completion or partial Substantial Completion of that area of work.
- C. In cleaning items having manufacturer's finish, or items previously finished by a Subcontractor, care shall be taken not to damage such finish. In cleaning glass and finish surfaces, care shall be taken not to use cleaning agents which may stain or damage any finish materials. Any damage to finishes caused by cleaning operations shall be corrected and repaired by the Contractor at no increase in Contract Price.

1.13 OR-EQUAL

- A. Where materials, equipment, apparatus, or other products are specified by Manufacturer, brand name, type or catalog number, such designation is to establish standards or performance, quality, type and style.
- B. If the General or Subcontractor wishes to use materials or equipment other than these specifically designated herein, as being equal to those so specifically designated, he shall submit the proposed substitution before purchasing and/or fabrication in accordance with the requirement of the General Conditions for approval.
- C. It is the responsibility of the Contractor to submit all back-up material and data needed to prove that the proposed product is an "or-equal". The Architect will not review an alternative product without proper documentation. Alternative products and assemblies will be rejected immediately without proper documentation.
- D. The schedule of the project is not subject to the availability of products submitted as "or approved equal" or the review needed to certify an "or approved equal" product.

1.14 PERMITS AND POLICE DETAILS

- A. The Contractor is responsible for procuring and paying for all applicable permits and police details throughout the entire project. The fees for the building permit will be waived however the general contractor will still need to apply for the permit.

1.15 COORDINATION

- A. The Contractor shall coordinate locations of all items to be installed with the Architect. If an item is not dimensioned, for height or location, contact the Architect for the installation information. Installation of items without the proper dimensional information may result in reinstallation at no additional charge by the Contractor.

1.16 EXISTING BUILDING

- A. The building will be occupied during construction. The Contractor shall coordinate all access and all work with the City's maintenance staff.
- B. The Contractor shall erect a physical dust barrier around the work to eliminate construction dust into the building. There will be a pre-construction walk-thru in advance of the Contractor mobilization to verify the existing conditions of the building, specifically regarding dust. The Contractor shall be completely responsible for all cleaning costs associated with any and all dust generated in the building by the construction, which will be deducted via change order.

1.17 GENERAL NOTES

- A. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND COORDINATING ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. IN CASE OF CONFLICT, THE ARCHITECT SHALL BE NOTIFIED AND SHALL RESOLVE THE CONFLICT.
- B. IN ANY CASE OF CONFLICT BETWEEN OR WITHIN THE DRAWINGS AND THE PROJECT SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- C. THE CONTRACTOR SHALL MAKE NO DEVIATION FROM DESIGN DRAWINGS WITHOUT PRIOR REVIEW BY THE ARCHITECT.
- D. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
- E. ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND LOCAL LAWS AND REGULATIONS.
- F. GENERAL CONTRACTOR SHALL COORDINATE LOCATIONS OF OPENINGS, PITS, BOXES, SUMPS, TRENCHES, SLEEVES, DEPRESSIONS, GROOVES, AND CHAMFERS, WITH MECHANICAL, ELECTRICAL AND PLUMBING TRADES.

- G. NO PROVISIONS HAVE BEEN MADE FOR CONDITIONS OCCURRING DURING CONSTRUCTION. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE PROPER AND ADEQUATE PROVISIONS FOR STABILITY OF, AND ALL STRESSES TO THE STRUCTURE DUE TO ANY CAUSE DURING CONSTRUCTION.
- H. CONTRACTOR SHALL NOT SCALE DRAWINGS. CONTRACTOR SHALL REQUEST ALL DIMENSIONS OR INFORMATION REQUIRED TO PERFORM THE WORK FROM THE ARCHITECT. WORK COMPLETED BY THE CONTRACTOR WITHOUT DIMENSIONS OR INFORMATION SHALL BE DONE AT THEIR OWN RISK AND, IF DEEMED INCORRECT BY THE ARCHITECT, SHALL BE REMOVED AND REINSTALLED TO THE SPECIFICATIONS OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
- I. CODES: THE PROJECT IS BASED ON THE REQUIREMENTS OF THE MASSACHUSETTS STATE BUILDING CODE - EIGHTH EDITION
- J. THE PLANS WERE COMPILED FROM VARIOUS SOURCES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 010400

CONDUCT OF THE WORK

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 PROJECT MANAGEMENT

- A. The Contractor's attention is directed to the General Conditions.
- B. The Building will be occupied during construction. The Contractor will have complete control of the job site and is solely responsible for safety and security on the job site. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the visitors during construction.
- C. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary work requirements within a minimum period of time.
- D. Unless specifically authorized by the Owner, in writing, the work must be conducted between the hours specified in Section 01 03 00 SPECIAL PROJECT PROCEDURES on Monday through Friday. No work is to be done on holidays, Saturdays, or Sundays unless approved by the Owner in advance.
- E. The Contractor is responsible for the security and stability of partially completed work until the project is accepted by the Owner.

1.03 COORDINATION

- A. The Contractor shall submit for approval to the Owner a detailed operational plan showing the sequence of operations prior to commencement of any work at the site. Any changes to this operational plan must be approved by the Owner.
- B. The Contractor must retain on the Work during its progress a competent full time representative, satisfactory to the Owner. This representative shall not be changed, except with the consent of the Owner. The representative shall be in full charge of the work and all instructions given to this person by the Architect shall be binding.
- C. The Contractor must supply to the Owner the home telephone number of a responsible person who may be contacted during non-work-hours for emergencies on the Project.

1.05 OWNER'S COOPERATION

- A. The Owner shall assist the Contractor to perform the Work in accordance with the approved operational plan.
- B. The Contractor shall provide:
 - 1. Notification to the Owner two (2) weeks before any work is scheduled at the site/building.
 - 2. Notification to the Owner in writing forty-eight (48) hours before work is scheduled in any particular area.
 - 3. An updated schedule monthly with the application for payment. Payments will not be authorized until the updated schedule is received and approved.

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 09 00

DEFINITIONS & STANDARDS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 DELIVERY AND STORAGE

- A. Materials shall be delivered in their original, unopened containers, clearly labeled with manufacturer's name, brand name, and such identifying numbers as are appropriate.
 - 1. All materials shall be stored flat, or in the case of rolls, standing on end, elevated from the roof or deck, and protected with waterproof covers as necessary to keep the materials dry and protected from sunlight and moisture, and ventilated to prevent excessive temperature.
 - 2. Adhesives, sealants, and mastics shall be stored between 60 and 80 degrees F. Should they be exposed to lower temperatures, restore to room temperatures for 3-5 days prior to use.
 - 3. Flammable materials shall be stored in a cool, dry area away from sparks and open flames.

4. Damaged or deteriorated materials shall not be used and shall be removed from the job site.
5. All cardboard containers shall be stored in dry areas or on pallets.
6. Provide security for all materials and equipment.
7. Protect all material and equipment from damage.

1.03 JOB CONDITIONS

- A. Do not deliver to site or install any material or system that has not been approved. Materials installed without approval may be required to be removed.
- B. Materials which have a temperature other than the application temperature of the manufacturer shall not be applied.
- C. All materials shall be installed according to manufacturer's specifications and shall be compatible with the adjacent materials used.

1.04 DIMENSIONS AND QUANTITIES

- A. All dimensions and quantities shall be determined or verified by the Contractor. The Plans and Details have been compiled from various sources and may not reflect the actual condition at the moment of construction. The Contractor is cautioned to take all precautions and make all investigations necessary to install the proposed work. The Owner will not consider unfamiliarity with the job conditions as a basis for additional compensation.

1.05 MINIMUM REQUIREMENTS

- A. It is the intent of these contract documents to, in some cases, exceed the minimum requirements of the manufacturer. The new work shall be bid and installed as detailed.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

DEFINITIONS & STANDARDS

01 09 00 - 2

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 30 00

SUBMITTALS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.
- E. Consult the individual sections of the specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

1.02 GENERAL PROCEDURES FOR SUBMITTALS

- A. Timeliness - The Contractor shall transmit each submittal to the Architect sufficiently in advance of performing related Work or other applicable activities so that the installation is not delayed by processing times, including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Architect in advance of the Work.
- B. Sequence - The Contractor shall transmit each submittal in a sequence which will not result in the Architect's approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.

- C. Contractor's Review and Approval - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To", "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section, or Drawing No. to which the submittal refers, purpose (first submittal, resubmittal), description, remarks, distribution record, and signature of transmitter.
- D. Architect's Action - The Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:
1. Final Unrestricted Release: Where marked "Approved" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
 2. Final-But-Restricted Release: When marked "Approved as Noted" the Work may proceed provided it complies with the Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend on these compliances.
 3. Returned for Resubmittal: When marked "Revise and Resubmit" or "Disapproved" the Work covered by the submittal (such as purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new submittal resubmitted without delay (no limit to number of resubmissions), in accordance with the Architect's notations stating the reasons for returning the submittal.
- E. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.

1.03 OR EQUALS

- A. Definition - Whenever a specification section names one or more brands for a given item, and the Contractor wishes to submit, for consideration, another brand, the submission shall be considered an "or-equal" or a "material substitution". For the purposes of this Contract, the terms "or-equal" and "material substitution" shall be considered synonymous.
- B. In no case may an item be furnished on the Work other than the item named or described, unless the Architect, with the Administrator's written concurrence, shall consider the item equal to the item so named or described, as provided by M.G.L. c.30 § 39M.

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

1.04 SUBMISSION OF SHOP DRAWINGS

- A. Shop Drawings shall be complete, giving all information necessary or requested in the individual section of the specifications. They shall also show all adjoining Work and details of connection thereto, including flashing, waterproofing, and all utilities.
- B. Shop Drawings shall be for whole systems. Partial submissions will not be

accepted.

- C. The Architect reserves the right to review and approve shop drawings only after approval of related product data and samples.
- D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Architect's stamp.
- E. The Contractor shall submit to the Architect one legible, reproducible transparency and two black line prints of each shop drawing. Transparency and prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.
- F. When the transparency is returned by the Architect with the stamp "Revise and Resubmit" or "Disapproved", the Contractor shall correct the original drawing or prepare a new drawing and resubmit a transparency and two prints thereof to the Architect for approval. This procedure shall be repeated until the Architect's approval is obtained.
- G. When the transparency is returned by the Architect with the stamp "Approved" or "Approved as Corrected", the Contractor shall provide and distribute the prints for all Contractor and Subcontractors use, and in addition submit, within 10 calendar days after approval, 4 prints to the Architect.
- H. The Contractor shall maintain one full set of approved shop drawings at the site.
- I. Photo copies of the bid documents are not acceptable as shop drawings.

1.05 SUBMISSION OF PRODUCT DATA

- A. The Contractor shall submit 7 copies of Product Data to the Architect. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.
- B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not impair legibility.
- C. Product Data returned by the Architect as "Disapproved" shall be resubmitted in 7 copies until the Architects approval is obtained.
- D. When the Product Data are acceptable, the Architect will stamp them "Approved" or "Approved as Corrected", retain 3 copies, and return 4 copies to the Contractor.

The Contractor shall provide and distribute additional copies as may be required to complete the Work.

- E. The Contractor shall maintain one full set of approved, original Product Data at the site.
- F. Provide product data for all items to be installed whether or not noted in the specification section.

1.06 SUBMISSION OF SAMPLES

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

PART 2 – PRODUCTS – NOT USED
PART 3 – EXECUTION – NOT USED

END OF SECTION

SUBMITTALS
01 30 00 - 5

SUBMITTAL TRANSMITTAL

From:

(Contractor's Company Information)

To: CBI Consulting Inc.
250 Dorchester Ave.
Boston, MA 02127

Project: _____

Contractor's Project #: _____

Architect's Project #: _____

C.C.: _____

Date: _____

Submittal Number: _____

We are sending for your Approval Review the following items:

Specification Number: 00 00 00.00

Specification Title: _____

Subcontractor/Supplier: _____

	Copies:	Date:	Description	Size:
Product Data Sheet				
MSDS Sheets				
Shop Drawings				
Warranties				
Qualifications				
Samples				

Deviations from Contract Documents: _____

Designer's Stamp

Contractor's Stamp

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 40 00

QUALITY CONTROL

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 INSPECTION AND TESTING

- A. An independent inspector and/or testing laboratory may be engaged and paid for by the Owner to perform the inspection and testing of the new work.
- B. The Contractor shall cooperate with the inspector and/or testing laboratory, furnish materials and labor as may be required and provide for convenient access to all parts of the work for purposes of inspection and testing.
- C. The Contractor shall accept as final the results of all such inspection and testing.
- D. The inspector shall have the authority to delay the commencement of work, or to stop the work at any time, for any reason which he deems necessary.
- E. The inspector and/or testing laboratory reserves the right to require the Contractor to perform removal of materials installed by the Contractor.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

- F. Bear all costs for tests where materials or systems have been found unacceptable and all costs for replacement required due to such unacceptability.
- G. If any replacement work is required, such work will also be subject to the terms of this SPECIFICATION.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 50 00

TEMPORARY FACILITIES

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 GENERAL

- A. The Contractor shall be responsible for providing and maintaining all temporary facilities until Substantial Completion. Removal of such prior to Substantial Completion must be with the concurrence of the Architect. The Contractor bears full responsibility for re-providing any facility removed prior to Substantial Completion
- B. Removal of all temporary facilities shall be a condition precedent to Substantial Completion unless directed otherwise by the Architect or specifically noted in the specifications.
- C. The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to Work under this contract. The Contractor's attention is directed to the Commonwealth of Massachusetts, Department of Labor and Industries Regulation 454 CMR.
- D. Safety is the sole responsibility of the Contractor on the job site. Contractor is notified that the building will be occupied during construction. The Architect does

not have control of the job site in any way.

1.03 FIELD OFFICES

- A. Space within the building will be available for meetings during the work.
- B. No space will be available within the building for Contractor offices or storage of tools or equipment. The Contractor shall provide a secure storage container for all tools, equipment, and storage.

1.04 TEMPORARY STRUCTURES AND MATERIAL HANDLING

- A. The Contractor shall provide such secure storage sheds, temporary buildings, or trailers as required for the performance of the Contract.
- B. Materials shall be handled, stored, installed, cleaned, and protected in accordance with the best practice in the industry and, except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.
- C. The Contractor must obtain the permission of the Owner for the placement of any storage facilities on site, and the Owner assumes no responsibility for articles stored.

1.05 TEMPORARY STAGING, STAIRS, CHUTES

- A. Except as otherwise specified, the Contractor shall furnish, install, maintain in safe condition, and remove all scaffolds, staging, and planking over 8 ft. in height, required for the use of all trades for proper execution of the Work, except as noted.
- B. The Contractor shall furnish, install, maintain in safe condition, and remove all temporary ramps, stairs, ladders, and similar items as required for the use of all trades for the proper execution of the Work.
- C. The Contractor shall furnish, install, maintain, and remove covered chutes from the work area. Such shall be in convenient locations and permit disposal of rubbish directly into trucks or disposal units.
- D. Debris shall not be allowed to fall freely from upper levels of the building.

1.06 TEMPORARY CONSTRUCTION FENCE

- A. The Contractor shall be responsible for providing and maintaining temporary fencing and barricades around the construction as may be necessary to assure the

safety of all persons authorized or unauthorized. Such protective measures shall also be located and constructed as required by local, state, and federal ordinances, laws, codes, or regulations.

1.08 HOISTING FACILITIES

- A. Except as otherwise specified, the Contractor shall provide, operate, and remove material hoists, cranes, and other hoisting as required for the performance of the Work by all trades.
- B. Provide on-call vertical access to the architect to review the work.

1.09 TEMPORARY WATER

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

1.10 TEMPORARY ELECTRICITY

- A. The Contractor may make use of the electricity available at the site, metered and paid for by the Owner, provided that the Contractor shall supply proper adapters and extension cords.
 - 1. Where heavy duty electric equipment drawing current in excess of 15 amperes is involved, the Contractor shall provide temporary service to supply the power.
 - 2. The temporary electric service shall include, but not be limited to labor, materials, and equipment necessary to supply temporary power of adequate capacity for the project.
- C. The Contractor shall furnish, install, and maintain lamps in operating condition. The Contractor, and each Subcontractor, shall furnish their own extension cords and additional lamps as may be required for their work. Temporary work of a special nature, not otherwise specified hereunder, shall be provided, maintained, and paid for the trade requiring same.

1.11 ACCESS

- A. The Contractor will NOT be permitted access to the building during construction operations, as directed by the owner. The Contractor is responsible for the protection of adjacent property during contract work.
- B. The Contractor shall allow for the minimal interruption of access and entry to the building with special concerns for maintaining life safety access and egress.

1.12 DEBRIS

- A. The Contractor will be responsible for the removal of all construction debris from the job site.
- B. The Contractor will be allowed to locate a dumpster or rubbish truck on site. All debris shall be chuted or deposited in the dumpster in closed containers.
- C. Material removed from the existing building and not to be re-used shall be treated as required in SELECTIVE DEMOLITION. Debris resulting from the new work shall be stored in containers provided by the Contractor and legally disposed of.

1.13 TEMPORARY TOILETS

- A. Portable, temporary toilets shall be provided by the contractor and shall be located as directed by the owner.
- B. The Contractor:
 - 1. Assumes full responsibility for the use of the temporary toilets
 - 2. Pays all costs for operation, maintenance and cleaning.
- C. The Contractor shall not have use of sanitary toilet facilities within the building and must provide portable sanitary toilets for the use of their forces for the entire duration of the work. Toilets shall be cleaned and emptied twice weekly (minimum) and as directed by the Owner.

1.16 TEMPORARY NOISE AND POLLUTION CONTROL

- A. All work performed under the Contract shall conform to the requirements of Chapter 111, Sections 31C and 142D of the General Laws, Commonwealth of Massachusetts, Department of Public Health, and Metropolitan Boston Air Pollution Control District regulations.

1.17 CONSTRUCTION PARKING CONTROL

- A. The Contractor shall control trucks and worker's vehicles to prevent unnecessary

TEMPORARY FACILITIES

congestion in the neighborhood of the project. See Site Plan for allowable on-site parking area.

- B. The schedule and location of all deliveries of materials must be coordinated and approved by the Owner.
- C. There is sufficient parking on site for the contractor's vehicles. All parking will be at the direction of the Owner.

1.18 TEMPORARY SITE STORAGE

- A. The Owner shall designate an area for temporary site storage on the site. All materials shall be stored in locked storage trailers or container boxes.
- B. Storage of materials will not be permitted within any building in the scope of work.

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 51 00

PROTECTION

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 PROTECTION OF PERSONS & PROPERTIES

- A. The site will be occupied during the work. The Contractor shall take all necessary precautions to ensure the public safety and convenience of visitors during construction. Safety is the sole responsibility of the Contractor, regardless of what is set forth in this document. The architect does not have control of the job site, or means and methods, in any way.
- B. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work to the complete satisfaction and at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

1.03 TEMPORARY PROTECTION

- A. The Contractor shall:
 - 1. Protect other areas, furniture, and private property of visitors and the Owner. Any areas damaged by the Contractor shall be restored to the original condition or compensated at the Contractor's expense.

- B. Finished surfaces shall not be subjected to traffic nor shall they be used for storage of materials. Where some activity must take place in order to carry out the Work, adequate protection must be provided.
- C. After the installation of the Work by any Subcontractor is completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in first class condition at the time of Substantial Completion.

1.04 ACCESS

- A. The Contractor shall, at all times, leave an unobstructed way along corridors in all locations where materials are stored or work is in progress.

1.05 SECURITY

- A. The Contractor shall be responsible for providing all security precautions necessary to protect the Contractor's and Owner's interests.
- B. Where excavation is involved, the Contractor shall be responsible for providing continuous watchmen service as necessary, to insure adequate protection of the general public.

1.06 NOISE AND DUST CONTROL

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

1.07 FIRE PROTECTION

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

the requirements of the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulation 454 CMR.

1.08 WIND PROTECTION

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

1.09 WEATHER PROTECTION

- A. The Contractor shall provide Weather Protection as required by Specification Section 01500 Temporary Facilities and any other specific requirements of the Contract Documents.

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 52 00

CLEANING UP

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.
- E. Consult the individual sections of the specifications for cleaning of Work installed under those sections.

1.02 CLEANING DURING CONSTRUCTION

- A. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on the site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. Do not allow materials and rubbish to drop free or be thrown from upper levels, but remove by use of a material hoist or rubbish chutes.

- D. Maintain the Site free from accumulations of waste, debris, and rubbish.
- E. Provide on-site containers for collection of waste materials and rubbish.
- F. At the end of each day, remove and legally dispose waste materials and rubbish from site.
- G. Disposal of materials shall be in compliance with all applicable laws, ordinances, codes, and by-laws.

1.03 FINAL CLEANING

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

the work area(s), on both sides. Clean plastic glazing in accordance with the manufacturer's directions. This cleaning shall be completed by qualified window cleaners at the expense of the Contractor just prior to acceptance of the Work.

- J. Repair, patch, and touch up marred surfaces to the specified finish, to match adjacent surfaces.
- K. Polish glossy surfaces to a clear shine.
- L. Do the final cleaning of resilient floors and wood floors as specified under the respective sections of the Specifications.
- M. Leave all architectural metals, hardware, and fixtures in undamaged, polished conditions.
- N. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
- O. In cleaning items with manufacturer's finish or items previously finished by a Subcontractor, care shall be taken not to damage such manufacturer's or Subcontractor's finish. In cleaning glass and finish surfaces, care shall be taken not to use detergents or other cleaning agents that may stain adjoining finish surfaces. Any damage to finishes caused by cleaning operations shall be repaired at the Contractor's expense.
- P. Broom clean exposed concrete surfaces and paved surfaces. Rake clean other surfaces of grounds.
- Q. Ventilating systems - Replace filters and clean ducts, blowers, and coils if units were operated during construction.
- R. Owner's responsibility for cleaning commences at Substantial Completion.

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 70 00

PROJECT CLOSEOUT

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.
- E. Consult the individual sections of the specifications for specific items required under those sections.

1.02 PARTIAL COMPLETION

- A. At the completion of Work the Contractor may notify the Architect that the Work is Partially Complete. The Architect, or a designee, shall conduct a review of the Work. If the building is actively occupied this review shall occur within 24 hours of any written request. The Architect shall prepare a punch list, setting forth in accurate detail any items and additional items that are not acceptable or incomplete. The Contractor shall coordinate all Subcontractors to achieve prompt completion of the punch list.
- B. Prior to requesting Partial Completion the Contractor shall make a thorough inspection of the Work. During this inspection the Contractor shall prepare a comprehensive list of all items remaining to be completed or corrected. This list shall include all remaining Contractor and Subcontractor items to be provided under the Contract Documents.

- C. The Contractor shall not be relieved of the responsibility to provide Contract items left off the Architect's punch list.
- D. If the Architect determines that the Work is not Partially Complete, the Architect shall inform the Contractor of those items that must be completed before the Architect will prepare the punch list. Upon completion of those items, the Contractor shall again request the Architect to prepare a punch list.
- E. If the Contractor fails to request a review that Contractor will be responsible for the condition of the Work even if the building is occupied.
- F. The date of Substantial Completion for the entire contract and the start of all associated warranties shall not occur until all work is complete.
- G. The Architect shall prepare the Certificate of Substantial Completion in accordance with Article 9.6 of the General Conditions after the work is complete.
- H. Partial Payment of retainage shall not be made until at least 65 days after the effective date of the Certificate of Substantial Completion.

1.03 RECORD DRAWINGS

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

1.04 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. Consult the individual sections of the specifications for the specific requirements for those sections and for further details and descriptions of the requirements
- B. Prior to final payment and completion the Contractor shall provide all Operating Manuals and Maintenance Instructions as required by the Contract Documents.

C. OPERATING INSTRUCTIONS AND MANUALS

- 1. Installers, and suppliers shall furnish to the Contractor two sets of operating and maintenance instructions of all mechanical, electrical, and manually operated equipment furnished and installed by them. Mechanical and electrical Subcontractors shall furnish instructions as specified in their respective sections.

2. The Contractor shall collect all of the above instructions, bind them into two complete sets, and submit them to the Architect who will deliver them to the Owner.
3. Submission of operating and maintenance instructions shall be a condition precedent to final payment.

D. INSTRUCTION OF OWNER'S PERSONNEL

1. Where specified in the individual sections of the specifications, the Contractor and Subcontractor shall instruct the Owner's personnel at the site, in the use and maintenance of equipment installed under the Contract.
2. Submission to the Architect of a certificate of compliance to this requirement, signed by the Contractor and the Owner's Representative, shall be a condition precedent to final payment.

1.05 FINAL COMPLETION

A. RELATED REQUIREMENTS

The Contractor's attention is directed to Article 9.7 of the General Conditions.

END OF SECTION

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01 72 00

SURVEYS AND RECORD DRAWINGS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 RECORD DRAWINGS

- A. Record Drawings shall consist of all the Contract Drawings.
- B. From the sets of drawings furnished by the Owner, the Contractor shall reserve one set for record purposes. From this set, the Contractor shall detach and furnish, at no charge to the Subcontractors the drawings of their portion of the Work for the same purpose.
- C. The Contractor and the Subcontractors shall keep their marked up As Built set on the site at all times and note on it in colored ink or pencil, neatly and accurately, at the end of each working day, the exact location of their work as actually installed. This shall include the location and dimensions of underground and concealed Work, and any architectural, mechanical, or electrical variations from the Contract Drawings. All changes, including those issued by Addendum, Change Order, or instructions by the Architect shall be recorded. Marked up As Built drawings shall be prepared for the entire project and include all Work, including but not limited to:

1. The location of all underground utilities and appurtenances referenced to permanent surface improvements, both horizontally and vertically at ten (10) foot intervals and at all changes of direction.
 2. The location of internal appurtenances as part of the work outlined in the specifications, concealed by finish materials, including but not limited to valves, coils, dampers, vents, cleanouts, strainers, pipes, junction boxes, turning vanes, variable and constant volume boxes, ducts, traps, and maintenance devices.
 - a. The location of these, items shall be shown by offsets to structure and drawing grid lines.
 - b. The tolerance for the actual location of these items on the marked up As Built Drawings shall be plus or minus two (2) inches.
 - c. Each item shall be referenced by showing a tag number, areas served, and function on the marked up As Built drawing
- D. The Architect may periodically inspect the marked up As Built drawings at the site. The proper and current maintenance of the information required on these drawings shall be a condition precedent to approval of the monthly applications for payment.
- E. At Substantial Completion the Contractor shall submit the complete set of marked up As-Built drawings to the Architect. The Contractor shall check all marked up As-Built drawings prepared by Subcontractors and certify in writing on the title sheet of the drawings that they are complete and correct, prior to submission to the Architect.
- F. The Architect shall review the marked up As Built drawings and verify by letter to the Owner that the Work is complete. The Architect shall incorporate all changes onto original drawings.
- G. The Contractor may make a written request for copies of the completed Record Drawings. The Contractor shall reimburse the Owner directly for the cost of printing of any requested Record Drawings.
- H. Submission of accurate marked up As Built drawings and their approval by the Architect shall be a condition precedent to final payment.

END OF SECTION

DIVISION 02

EXISTING CONDITIONS

SECTION 02 07 00

SELECTIVE DEMOLITION

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect Work of this Section whether or not such Work is specifically mentioned in this Section.
- C. Coordinate Work with that of all other trades affecting or affected by Work of this Section. Cooperate with such trades to assure the steady progress of all Work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the Work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Demolition Work required to complete the Work of the Contract including all the Demolition Work shown on the plans, listed in the specification, and needed to install a complete assembly in every way. Coordinate the Demolition Work with all the other trades for the project. Provide all demolition and disposal Work to complete the Demolition Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All Work of the Contract is related. It is the General Contractor's responsibility to review all the Work of each section, each Subcontractor, and each file sub-bidder for the entire project so that all the Work can be properly and completely performed.
- B. Work of this section includes but is not limited to all selective demolition necessary, within the roof deck areas to perform the work of this contract including but not limited to:
 - 1. The removal of existing EPDM and Slate roofing assemblies down to existing tongue and groove wood decking to remain, at roof locations indicated on Site and Roof plans.

2. Remove all deteriorated tongue and groove wood deck as may be found following the removal of the roofing. See unit cost schedule for bid quantities.
3. Remove all roof items to accommodate new roofing including but not limited to; edge metal, metal flashing, and membrane flashing.
4. Supply all shoring and protection necessary to protect the occupants, building area, building systems, and landscape areas. All means and methods are the responsibility of the Contractor. The Contractor is solely responsible for safety on the job site.
5. Extent of demolition as described on the drawings and in conjunction with all the new work shown on the drawings. The Contractor is responsible for all demolition, disposal, and cleanup associated with the Work, whether or not shown on the plans or described herein required to complete the Work.

1.03 QUALITY ASSURANCE

A. Supervision:

1. Engage and assign supervision of shoring and bracing Work to qualified personnel.

B. Regulations:

1. Comply with local codes and ordinances of governing authorities having jurisdiction.

1.04 SUBMITTALS

A. Schedule:

1. Submit schedule indicating proposed methods and sequence of operations for Selective Demolition.

1.05 JOB CONDITIONS

A. Condition of Structures:

1. Owner assumes no responsibility for actual condition of items or structures to be demolished.
2. Conditions existing at time of commencement of Contract will be maintained by Owner insofar as practicable.

B. Protections:

1. Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to selective demolition Work. Safety is the sole responsibility of the Contractor.
2. Provide protective measures to provide free and safe passage of Owner's personnel and general public to and from area of selective demolition.
3. Erect temporary covered passageways as required by authorities having jurisdiction.
4. Take measures to protect against windblown dust, obtain Owner's approval of means used for dust control.
5. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or Work to remain.
6. Protect from damage existing finish Work that is to remain in place and becomes exposed during demolition operations.
7. Protect adjacent materials and finishes with suitable coverings when necessary including, but not limited to, automobiles in parking lot adjacent to building which will remain in use during Work to be performed.
8. Remove protections at completion of Work.

C. Damages: Promptly repair damages caused to building or property, including cars, by demolition Work at no cost to Owner.

D. Traffic:

1. Conduct Selective Demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
2. Do not close, block, or otherwise obstruct streets, walks, parking lot, or other occupied or used facilities without written permission from the authorities having jurisdiction.
3. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

E. Environmental Controls:

1. Comply with governing regulations pertaining to environmental protection.
2. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 INSPECTION

- A. Before start of Selective Demolition Work, inspect areas in which Work will be performed.

3.02 PREPARATION

A. Structure Safety:

1. Provide exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and adjacent facilities to remain.
2. Cease operations and notify the Owner's Representative immediately if safety of structure appears to be endangered.
3. Take precautions to support structure until determination is made for continuing operations.

3.03 DEMOLITION

A. General:

1. Perform Demolition Work in a systematic manner.
2. Use such methods as required to complete Work indicated on Drawings in accordance with Demolition Schedule and governing regulations.
3. If unanticipated mechanical, electrical, or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict with Architect.

B. Disposal of Demolished Materials:

1. Remove debris, rubbish, and other materials resulting from demolition operations from site.
2. Transport and legally dispose of materials off site.
3. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution. Present receipts from certified waste disposal firms confirming hazardous waste disposal.
4. Burning of removed materials is not permitted on project site.

3.04 CLEANING AND REPAIR

- A. On completion of demolition Work, remove tools, equipment, and demolished materials from site. Remove debris on a daily basis.
- B. Remove protection and leave areas broom clean.
- C. Repair demolition performed in excess of that required.
- D. Repair adjacent construction or surfaces soiled or damaged by selective demolition Work.

END OF SECTION

DIVISION 02

EXISTING CONDITIONS

SECTION 02 08 00

ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 **GENERAL REQUIREMENTS**

- A. The General Provisions of the contract, including General and Supplementary Conditions and applicable provisions of Division 1 - General Requirements, apply to the work specified within this Section.
- B. Examine all conditions as they exist at the project prior to submitting a bid for the work of this Section.
- C. All provisions of this Section relating to the health and safety of workers and the general public, as well as protection of the environment are minimum standards. The General Contractor and the Asbestos Abatement Subcontractor, or other approved properly trained Contractor, are responsible for determining whether any additional and/or more stringent protective measures are required by any legal requirements or prudent conservative work practices, and implementing such measures if deemed necessary. Nothing in this Section shall be deemed to relieve the General Contractor and the Asbestos Abatement Subcontractor from any liability with respect to any such legal requirements or requirement of prudent conservative practice.
- D. All work-site preparations and practices will be conducted in accordance with all Federal, Massachusetts and appropriate City and other local regulations, standards and codes pertaining to worker health protection, protection of the public health and the environment, including current US Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), US Department of Transportation (DOT), Massachusetts Department of Labor Standards (DLS), Massachusetts Department of Environmental Protection (DEP), local and all other Federal, Commonwealth of Massachusetts and local regulations pertaining to asbestos removal, its transportation and disposal.
- E. The Consultant will render certain technical services during the Work, including without limitation, the services described at 453 CMR. 6.07 (5) and described within this Section. All services performed by such Representative shall be considered advisory to, and for the sole and exclusive benefit of the Owner. The Asbestos Abatement Subcontractor or other approved properly trained Contractor acknowledges that the Consultant is an independent contractor of the Owner and agrees that no act or omission by such Consultant, and no communication by said "Consultant", shall be deemed in any manner to alter or modify the terms of this Contract, or to waive any

provision hereof, or to bind Owner, unless specifically agreed upon by Owner in a signed written instrument.

- F. Prior to use of any design, device, material, method of operation, or process covered by letters patent or copyright, the right for such use shall be secured by suitable legal agreement with the patentee or owner of the letters patent or copyright. No arrangement involving letters patent or copyright is acceptable, if subsequent payment for permanent use following completion of the work is required or implied. The contractor shall be responsible for any liability on the part of the Consultant, which may result from violations by the contractor.
- G. The Owner has retained Cardno ATC as the Environmental Consultant for the purpose of project management during asbestos abatement activities.
- H. For the purpose of this Section, "*Consultant*" shall refer to Cardno ATC, who will act as designated, authorized representatives of the Owner for the purpose of inspecting, monitoring, and testing.

1.02 SUMMARY OF WORK

A. Summary of Work to be Completed

The following is the Scope of Work, at a minimum, required to be performed with the associated roof replacement activities at the Perley Elementary School located at 51 North Street in Georgetown, Massachusetts under the Base Bid.

All Asbestos Abatement work under this Section shall be performed by a General Contractor and the Asbestos Abatement Subcontractor holding a current Massachusetts DLS Asbestos Abatement Contractor's license or other approved properly trained Contractor. Contractor shall furnish all labor, worker training, materials, equipment, and services for the complete and proper removal and disposal of asbestos-containing materials.

- 1. Removal and disposal of all specified asbestos-containing materials (ACM) and specified non-ACM materials as identified herein. This shall include on the slate roof: mastic on roof paper, black slate cement, black slate glue daub, red slate cement; and on the high flat roof: black chimney flashing sealant on the west chimney, grey chimney flashing sealant on the east chimney, black chimney flashing sealant on the center chimney, black coating on roof stack, tar on roof paper at the roof access hatch flashing, and specified non-ACM where necessary to access asbestos. All work performed shall be as required by Sections 3.03, 3.04, and 3.05.

2. Work area preparations, including pre-cleaning, installation of critical barriers and polyethylene sheeting, construction of decontamination facilities, work area preparation, sealing, isolation, and other activities as directed by the Owner or Consultant.
3. Protection on non-ACM materials and stationary equipment inside of work areas with two layers of polyethylene sheeting.
4. Furnishing of all labor, materials, equipment, and services required for all work included under the provisions of this Section.
5. Compliance with all applicable federal, state, and local regulations, as well as all provisions set forth within this Section, and facility requirements.
6. Clean up following removal activities in each designated work area.
7. Performance of any other work or activities required by this Section, applicable regulations, or as necessary to perform a complete job to the satisfaction of the Owner and Consultant.
8. Provide temporary electrical wiring and services as required for asbestos removal according to the Provisions as set forth in this Section.
9. Contractor is responsible for safely accessing and removing asbestos, and also providing any additional equipment necessary (fall protection equipment) to perform abatement from the buildings. General Contractor will provide scaffolding equipment necessary to access asbestos-containing materials included in the project scope of work.
10. Removal and disposal of asbestos-containing materials, and specified non-ACM materials, that may be uncovered during demolition/renovation and are not included in the base bid scope of work. This work will be performed as unit price work.
11. Coordination of all work with the General Contractor, including scheduling and sequencing of removal work, temporary protection at roof and window openings, etc., to the Owner's satisfaction.
12. Compliance with all OSHA Lead in Construction standards found at 29 CFR 1926.62. Lead paint was detected in the paint chip sample collected from the white wood slate roof soffit/gutter at the base of the slate roof at a concentration of 10% (% weight).

B. Scope of Work

The following is a summary of the work items to be performed under the Contract. Given quantities are estimates only and are not guaranteed. Bidders shall not use these estimates as the only basis for their Bid. Bidders shall confirm all quantities and items during the Pre-Bid walkthrough to the extent reasonably possible. The Bidders are responsible to review and confirm all quantities and field conditions (including structural integrity of walking/working surfaces), including locations of all ACM and debris, surface area, lengths, widths, cross-sections, thickness, composition of layers, substrate composition and any attachments thereto, including glue, mastic, compounds, prior to the submission of bids. Neither the Consultant nor the Owner will be responsible for errors or omissions and/or charges for extra work arising from any bidder's failure to become familiar with the existing conditions of the site, requirements of the work and the results to be produced. By submitting a Bid, the Bidder further agrees that the descriptions contained herein and on the drawings (i.e., quantities, descriptions, locations, areas, thicknesses, etc.) are adequate and that the bidder will produce the required results. No claims for extra payment due to incorrect quantities will be considered. By submitting a Bid, a Bidder agrees and warrants that he is familiar with and will perform all the work required, including all items indicated herein and/or on the Drawings. The estimates of asbestos containing materials and approximate quantities of asbestos containing materials to be removed are in the following table.

**Summary of Identified Asbestos-Containing Materials to be Removed
 Perley Elementary School
 51 North Street
 Georgetown, Massachusetts**

Material	Location(s)	Estimated Quantity	Result
Mastic on Roof Paper	Slate Roof	4,400 SF	20% Chrysotile
Black Slate Cement	Slate Roof	4,400 SF	3% Chrysotile
Black Slate Glue Daub	Slate Roof	4,400 SF	15% Chrysotile
Red Slate Cement	Slate Roof	4,400 SF	3% Chrysotile
Black Chimney Flashing Sealant	High Flat Roof, West Chimney	30 SF	10% Chrysotile
Grey Chimney Flashing Sealant	High Flat Roof, East Chimney	30 SF	10% Chrysotile
Black Chimney Flashing Sealant	High Flat Roof, Center Chimney	20 SF	20% Chrysotile
Black Coating on Roof Stack	High Flat Roof	3 stacks	15% Chrysotile

Tar on Roof Paper	High Flat Roof – Roof Access Hatch Flashing	20 SF	10% Chrysotile
-------------------	---	-------	----------------

1.03 SEQUENCE OF WORK

The following is a typical sequence of work that the General Contractor and the Asbestos Abatement Subcontractor or other properly trained Contractor shall adhere to during the asbestos abatement project. Consultant may authorize deviations from this typical sequence based upon the specific conditions encountered during the project.

1. Contractor shall post all required signage.
2. Contractor shall secure area from unauthorized access.
3. Owner/Contractor will remove all movable objects from the work area.
4. Contractor shall prepare the specified Work Area for the slate roof: mastic on roof paper, black slate cement, black slate glue daub, red slate cement; and the high flat roof: black chimney flashing sealant on the west chimney, grey chimney flashing sealant on the east chimney, black chimney flashing sealant on the center chimney, black coating on roof stack, tar on roof paper at the roof access hatch flashing removal as described in this Specification.
5. Contractor shall construct remote decontamination unit, and any other construction needed to complete the work area to the satisfaction of Consultant.
6. Consultant shall inspect and approve all work area preparations before permitting Contractor to begin removal work.
7. Contractor shall remove and dispose all asbestos-containing materials as required by this Section.
8. Consultant shall perform a final visual inspection to assure that no visible debris exists in the work area. Contractor shall re-clean the work areas as needed until they pass a visual inspection by Consultant.
9. Contractor shall remove all work area barriers, equipment, polyethylene sheeting, etc. and clean any areas to the satisfaction of Consultant and Owner.

1.04 COORDINATION AND PHASING OF WORK

- A. Contractor shall coordinate all work in this Section with all other work of this Project. Where additional regulatory requirements apply to the work in this Section, the Contractor shall ensure compliance with all requirements.
- B. Contractors work schedule must be coordinated with, and acceptable to the General Contractor and approved by the Owner. Contractor shall work continuously and diligently in each work area on the days and during the hours indicated on their work schedule.
- C. Contractor shall cooperate fully with other Contractors at the facility.
- D. Contractor shall subdivide work areas and/or otherwise provide additional containments and mobilization where and when necessary to accomplish asbestos abatement in accordance with the project phasing, as determined by the General Contractor, and as specified by the Owner.

1.05 SUBMITTALS

A. Pre-Construction Meeting

The Contractor shall meet with the Owner and the Consultant for a Pre-Construction meeting prior to commencing work on the project. The meeting shall be at the facility or at the offices of the Owner, at a mutually convenient time and date. At the meeting, the Contractor shall be represented by authorized representatives and the field supervisor who shall run the project on a daily basis, and who shall present evidence that all requirements for initiation of the work have been met. The minimum agenda for the meeting shall be:

1. Review of "Pre-Job Submittals".
2. Channels of communication.
3. Construction schedule, including sequence of critical work.
4. Designation of responsible personnel.
5. Procedures for safety, security, quality control, housekeeping, and related matters.
6. Use of premises, facilities, and utilities.

B. PRE-JOB SUBMITTALS

The Asbestos Abatement Subcontractor or other approved properly trained Contractor is required to provide one copy of the following Pre-Job Submittals at the Pre-construction Conference:

1. Asbestos Abatement Plan: Prepare an Asbestos Abatement Plan describing engineering controls and removal procedures that the Asbestos Abatement Subcontractor or properly trained Contractor will use to conduct the Work of this Section.
2. Copies of all notifications, permits, applications, contractor asbestos license, personnel licenses and like documents required by Federal, State, or local regulations obtained or submitted in proper fashion,
2. List of employees to be used on this project.
3. Copies of medical records as required by OSHA or a notarized statement by examining medical doctor that such examinations took place and when for each employee to be used on project,
4. Record of successful respiratory fit test performed by a Competent person (as defined by OSHA) within the previous 6 months, as required elsewhere in the documents for each employee to be used on this project,
5. Certificate of Insurance,
9. A list of all equipment to be used on site, by make and model, including negative pressure equipment, HEPA vacuums, Water Atomizing Devices, etc.,
10. Chain of Command of responsibility at work site including supervisors, foreman, and competent person, their names, resumes and certificates of training,
11. Proposed Emergency plan and route of egress from work areas in case of fire or injury, including the name and phone number of nearest medical assistance center,
12. Contractor's testing lab, AIHA PAT proficiency, and Certification in the State where work site is located,

C. Post-Construction Submittals

The Contractor is required to submit the following to the Consultant within thirty days after completion of the project:

1. Manifests and waste receipts acknowledging disposal of all waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative,
2. A copy of the entry-exit logbook required elsewhere in these Sections,
3. All personnel monitoring results as required by OSHA and elsewhere in these Sections,
4. Copy of licenses, medical, and fit tests of all workers and supervisors who performed work on the project,
5. All notifications as required elsewhere in these Sections.

1.06 REFERENCE STANDARDS, REGULATIONS AND CODES

- A. All work shall be performed strictly according to the Sections contained herein and with the regulations cited in this Article. The Contractor undertaking asbestos abatement work and persons in their employ shall comply with and be bound to requirements of the following Federal, State, and Local standards, regulations and codes. These standards and codes shall be by reference made part of this Section and shall be complied with. Whenever regulations are conflicting, the more stringent regulation will prevail.
1. US Department of Labor; Occupational Safety and Health Act of 1970. (Particular attention is drawn to the Asbestos Regulations: CFR Title 29, Part 1910, Sec. 1910.1001 and Part 1926, Sec. 1926.1101, and the Respirator Regulations; CFR Title 29, Part 1910, Sec. 1910.134 and the Hazard Communication Program, CFR Title 29, Part 1910.1200).
 2. US Environmental Protection Agency, CFR, Title 40, Part 61, Subparts A and M, National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule, Dated Tuesday, November 20, 1990.
 4. US Environmental Protection Agency; TSCA Title II, Asbestos Hazard and Emergency Response Act (AHERA), 40 CFR Part 763 Subpart E - "Asbestos-Containing Materials in Schools" and also 40 CFR, Part 763, Subpart G - "Worker Protection Rule".
 4. US Department of Transportation regulations, 49 CFR Parts 172 and 173.

5. All Commonwealth of Massachusetts laws, regulations and standards, including the regulations 453 CMR 6.00 "The Removal, Containment or Encapsulation of Asbestos" and 310 CMR 7.15 "Asbestos", 18.00 and 19.00 and MGL Chapter 21E.
 6. Other Federal, State and local statutes, ordinances, regulations, or rules pertaining to this Section and the work described herein, including the storage, transportation and disposal of asbestos.
- B. All regulations by these and other governing agencies in their most recent version are applicable. These Sections refer to many requirements found in these references, but in no way intend to cite or reiterate all provisions therein or elsewhere. It is the contractor's responsibility to know, understand, and abide by all such regulations and common practices. Other provisions contained in these references may from time to time during the execution of this contract be enforced by the Owner at his own discretion.

1.07 REGULATORY SUBMITTALS

- A. The Contractor shall be responsible for securing all necessary permits for asbestos related work, including hauling, removal, and disposal, fire, and materials usage, or any other permits required to perform the specified work.
- B. The Contractor shall notify the following agencies in appropriate manner and place of impending work, and shall provide evidence of notifications at the pre-construction conference:
 1. U.S. Environmental Protection Agency,
J. F. Kennedy Federal Building
Boston, Massachusetts 02203
(10 working days in advance)
 2. Massachusetts Department of Environmental Protection
Division of Air and Hazardous Materials
(10 working days in advance)
Send Notification to:
Commonwealth of Massachusetts
Asbestos Program
P.O. Box 120087
Boston, Massachusetts 02112-0087
 3. Massachusetts Department of Labor Standards
Asbestos Control Unit

(10 working days in advance)

4. Local Fire and Health Department and other state or city agencies as required by law or ordinance.

1.08 PROJECT CONDITIONS

- A. Take all measures and provide all material necessary for protecting fixed machinery, controls, instrumentation, equipment, and furniture from asbestos fiber, dust and debris and from water damage.
- B. Working space and space available for storing materials is restricted within the confines of the project and/or at locations to be designated by the Owner.
- C. Provide access and personal protective equipment, including half face piece negative pressure respirators, to the Consultants, who are licensed and certified, to visit the Work Areas to maintain and adjust building services.
- D. Schedule the use of existing utilities with the Owner. No utility service, fire protection system, or communication system may be interrupted without prior approval of the Owner.
- E. Water, electric power, lighting and other utilities, toilets, and other facilities, shall be provided by the Owner from existing sources where Contractor's use is not excessive and does not interfere with buildings normal use. Where existing utilities of the facility are not adequate or cannot be used, the Contractor is responsible for providing alternative sources, the cost of which is to be included in bid price. The use of the Facility's utilities shall be coordinated through the Owner.
- F. Post and affix caution signs and labels as required by OSHA regulation, 29.CFR.1926.1101 (k) (1). Post safety signs outside the work project as may be required by the Owner. Obtain two copies of 29.CFR.1910.1001, 29.CFR.1926.1101, m 40.CFR.61, Subpart M, and Commonwealth of Massachusetts Regulations 453 CMR 6.00 and 310 CMR 7.00, and post one copy at the job site and retain one copy on file.
- G. Post at the job site, or at the entrance to each independent Work Area, one copy of all Material Safety Data Sheets (MSDS's) of all chemicals and other substances to be used on this contract. These sheets shall be made available to the Consultants for review.
- H. No storage of waste will be permitted onsite. All ACM shall be removed off-site at the end of each shift except that limited storage space may be provided by the Owner at the

facility. Contractor will supply any additional temporary storage as needed. All materials and equipment are to be kept in orderly fashion in designated areas, free and clear of halls and doorways, and in conformance with all regulations, codes, and in consideration of building usage.

1.09 RESPIRATORS AND PROTECTIVE CLOTHING

- A. Personal protection, in the form of disposable Tyvek suits, and NIOSH approved respirators, are required for mechanics, contractor supervision, Consultant and visitors at the work site during the set-up, removal, and cleaning operations. Contractor shall provide all this protective equipment for workers, Consultant, and authorized personnel to access this work site.
- B. Each worker shall be supplied with a minimum of two complete disposable uniforms every day. Removal workers shall not be limited to two uniforms, and the Contractor will be required to supply additional uniforms as is necessary. Under no circumstances will anyone entering the removal area be allowed to reuse a contaminated uniform.
- C. Work clothes shall consist of disposable full body suits, head covers, gloves, footwear, and eye protection.
- D. The Contractor shall supply workers and supervisory personnel with NIOSH approved protective respirators and HEPA/filters. Appropriate respirator selection shall be determined by the daily personnel samples being taken and strictly follow the guidelines set forth in the OSHA respiratory program 29 CFR 1910.134 and the Massachusetts DOS Regulations 453 CMR 6.00. The respirators shall be sanitized and maintained according to the manufacturer's Sections. Appropriate respirators shall be selected using the information provided in OSHA Title 29 CFR Part 1910.1926 Final Rules. This determination has been made for this project. PAPR's shall be supplied by the contractor for all personnel associated with this work. Disposable respirators shall not be considered acceptable in any circumstance. The Contractor will maintain on site a sufficient supply of disposable HEPA/filters to allow workers and supervisory personnel to change contaminated filters at least three (3) times daily. The Contractor is solely responsible for means and methods used and for compliance with applicable regulations.
- E. Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the written submitted respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (b) (1-11) A copy of this program shall be kept at the work-site, and shall be posted in the Clean Room of the Decontamination Unit.

- F. Workers must perform negative and positive pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air purifying respirators shall be tested for adequate flow as specified by the manufacturer.
- G. Workers shall be given a qualitative fit test in accordance with procedures detailed in the OSHA Lead Standard (29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols) for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.
- H. Upon leaving the active work area, pre-filters shall be discarded, cartridges removed, and respirators cleaned in disinfectant solution and clean water rinse. Clean respirators shall be stored in plastic bags when not in use. The contractor shall inspect respirators daily for broken, missing, or damaged parts.
- I. Contractor shall provide daily personal sampling to check personal exposure levels for the purpose of establishing respiratory protection needs. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain invariant, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be to determine eight-hour Time-Weighted-Averages (TWA). The contractor is responsible for personal sampling as outlined in OSHA Standard 1926.1001.
- J. Sampling personnel shall be proficient in the taking of air samples under NIOSH 7400, and must be supervised by an individual who has completed the training course NIOSH 572 or equivalent.
- K. Air sampling results shall be available at the job site in written form no more than twenty-four (24) hours after the completion of a sampling cycle. The document shall list each sample's result, sampling time and date, person monitored, flow rate, sample duration, microscope field area, number of fibers per fields counted, cassette size and analysts name and company. Air sample analysis results will be reported in fibers per cubic centimeter.

1.10 WATER AND ELECTRICAL SERVICE

- A. The Contractor shall provide temporary connections to existing building utilities and provide temporary facilities as required and necessary to carry out the work.
- B. The Contractor shall provide temporary connections to building water service and provide all lines necessary for distribution of water.

- C. Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electrical service. All power connections and panel work is to be performed by a licensed electrician.
- D. The Contractor shall provide temporary service connections from power sources as required. All existing power service to the work area will be isolated and shut down for the duration of the project. Contractor shall provide service (sub-panel) with a minimum of 100 amp, two-pole circuit breaker or fused disconnect. Sub-panel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion. Contractor's electricians will make all necessary connections to main power system.
- E. Provide I.D. warning signs at power outlets that are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets.
- F. Provide all receptacle outlets equipped with ground fault circuit interrupters (GFCI) and reset button for plug-in connection of equipment.
- G. The Contractor must supply temporary lighting for all lighting requirements within contained areas. All existing lighting shall be isolated and shut down.

PART 2 - PRODUCTS

2.01 ASBESTOS ABATEMENT SUPPLIES

- A. Respirators: Respirators will be selected from those jointly approved by the National Institute for Occupational Safety and Health (NIOSH), US Department of Health and Human Services and the Mine Safety and Health Administration (MSHA), US Department of Labor.
- B. Surfactant (Amended Water): All water to be used for removal and wet wiping of asbestos-contaminated materials during clean-up operations shall be amended through the addition of a surfactant (a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent) mixed and supplied in accordance with manufacturer's instructions.
- C. Polyethylene Sheeting: All polyethylene sheeting used on the Project shall be fire resistant, and shall meet and be approved as called for in local, Fire Prevention Codes

PART 3 - EXECUTION

3.01 GENERAL

A. Approvals and Inspection

1. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet these contract Sections along with EPA, OSHA, NIOSH, regulations and recommendations as well as any other federal, state, and local regulations. Where there exists overlap of these regulations, the most stringent one applies. All work performed by the Asbestos Abatement Subcontractor is further subject to approval of the Owner.
2. Modifications to these isolation and sealing methods, procedures, and design may be considered if all elements of proper and safe procedures to prevent contamination and exposure can be demonstrated. Written modifications to these Sections must be made to the Owner and Consultant for review before they can be used for work on this project.

B. Damage and Repairs to the Work Site

1. Asbestos removal and disposal shall be performed without damage to the building, including, but not limited to, structural members, ceilings and walls. The Asbestos Abatement Subcontractor shall provide protection of these items and materials as part of the work area preparation. Where asbestos abatement activity causes damage, the Asbestos Abatement Subcontractor shall patch, repair, replace or otherwise restore it to its original condition at no additional cost to the Owner.

C. HVAC Systems

1. All duct work, heating units and HVAC equipment shall be wrapped in two layers of six-mil polyethylene prior to any other work taking place, or excluded from work area boundaries by airtight polyethylene sheeting.

D. Barriers and Isolation Areas

1. The Asbestos Abatement Subcontractor shall construct and maintain suitable critical barriers to separate asbestos abatement roof and window work areas from interior spaces occupied by the Owner. Critical barriers shall be of sufficient size and strength to prevent staff, residents, the public and others from entering the work areas. Critical barriers shall be constructed at all roof

access locations or other open entrances to the roof or window work area. Critical barriers shall be constructed with plywood and 2 x 4 lumber, reinforcing it, and placed in the locations specified and designated by the Owner's Representative. Any seams in the critical barriers shall be sealed airtight with caulking or an approved equal method. These barriers shall be removed by the Asbestos Abatement Subcontractor at the completion of construction work.

2. Warning signs shall be posted on all critical barriers at the commencement of the work area preparation, as required in 1926.1101 of the Occupational Safety and Health Standards Federal Register, Volume 51, Number 119, June 20, 1986. The signs shall display the proper legend in the lower panel, with letter sizes and styles of a visibility at least equal to that specified in OSHA Standard 1926.1101. (k)(1)(ii). The signs will read as follows:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATOR AND PROTECTIVE CLOTHING
REQUIRED IN THIS AREA

3. The signs shall be posted at the perimeters of asbestos removal, demolition or construction areas where the asbestos-containing material to be removed exists.
4. The Asbestos Abatement Subcontractor shall maintain all temporary and critical barriers, facilities and controls as long as needed for the safe and proper completion of the work. Any breaches in the containment will be corrected at the beginning of each shift and as necessary during the workday. Work will not be allowed to commence until all control systems are in place and operable.
5. No barriers shall be removed until the work areas are thoroughly cleaned and all debris has been properly bagged and removed from work areas, and the air has passed final clearance tests, in accordance with provisions detailed herein.

3.02 PREPARATION AND DECONTAMINATION UNIT

A. Preparation

1. The Asbestos Abatement Subcontractor shall prepare the roof and window work area by installing critical barriers and sealing any roof top openings near roof abatement areas. Critical barriers consist of the boundaries of the work area including roof hatches, roof level windows and any constructed barrier to restrict public access to the work area. HVAC systems shall be shutdown and sealed, where applicable, as described previously with two layers of 6 mil polyethylene sheeting.

B. Decontamination Unit and Procedures

1. It is the Asbestos Abatement Subcontractor's responsibility to provide a remote decontamination unit consisting of an Equipment Room, Shower, and Clean Room for personnel involved in asbestos removal. Each of the three rooms shall be of sufficient size to accommodate authorized personnel and related equipment. Each room shall be separate of other rooms by a double flap of six (6) mil. polyethylene sheeting acting as an airlock. This shall be designed to minimize fiber migration and airflow between the decontamination unit rooms. The rooms shall be framed with 2"x 4" lumber, masked, sealed and attached to the entry/exit ways of asbestos work areas. The three rooms together shall be referred to as the Decontamination Unit.
2. The Equipment Room shall serve as a transfer room and an intermediate area between the work area and any decontamination procedures to occur in the shower room. This room shall be vacuumed and washed whenever necessary in order to prevent asbestos dust and debris accumulations or when required by Consultant. The Equipment Room will also serve as an access area to the shower for personnel leaving the work area. Workers leaving the containment shall remove and dispose of disposable protective suits and wear only respirators into the Shower. At the end of each day, bags of asbestos waste and contaminated materials shall be removed after a thorough decontamination procedure as described in the contract Sections. Workers performing this operation will wear respirators and disposable full-body protective suits.
3. The Shower Room shall have a continuous supply of cold and hot water, and be suitably arranged for complete showering during decontamination. The Shower Room with curtained doorways will comprise an airlock between contaminated and clean areas. All materials being passed from the equipment room to the clean room must pass through the shower and be thoroughly decontaminated. The shower floor will not be allowed to sit at ground level, but must be elevated a minimum of six inches off of the floor with a suitable catch basin for drainage into a filtration system. The shower will be equipped with a sump pump and an in-line two stage filter. The first

stage will efficiently filter fibers greater than twenty (20) microns in length and the second stage will filter bulk material and fibers greater than five (5) microns in length. Alternatively, shower water may be re-routed back into the work area to be bagged and disposed of as asbestos contaminated waste. The Asbestos Abatement Subcontractor shall provide disposable towels and soap in the shower area.

4. The Clean Room shall store asbestos worker's clean protective clothing and clean respirator equipment. Contaminated clothing, respirators, tools, equipment, or other materials shall not be allowed into the Clean Room or beyond. The Clean Room will serve as an access for personnel entering the work area, and for the donning of respiratory protection and protective clothing. The Asbestos Abatement Subcontractor shall provide space in the clean room for the worker's personal clothing. This may be in the form of hangers or lockers.

3.03 REMOVAL AND DISPOSAL OF CATEGORY I NON-FRIABLE ASBESTOS-CONTAINING ROOFING MATERIALS

- A. Because roofing material is classified as non-friable material, regulations for the removal of roofing material are less stringent if certain procedures are followed. Category I non-friable asbestos-containing roofing materials shall be removed from the roof and disposed in accordance with all regulations of applicable federal, state and local authorities concerning roofing materials, including the Interpretive Rule for Roof Removal Operations under the Asbestos NESHAP (40 CFR 61, Appendix A to Subpart M). The Department of Environmental Protection (DEP) has incorporated their policy statement that addresses the requirements for handling Category I non-friable asbestos-containing roofing materials into the current DEP asbestos regulations (310 CMR 7.15 (10)). If these provisions are followed, as outlined below, the roof removal does not have to be performed by a licensed Asbestos Abatement Contractor. In addition, the following minimum work practices shall be adhered to:
 1. Asbestos Abatement Subcontractor shall post all OSHA required signage.
 2. Persons not involved in the removal shall be excluded from the roof areas.
 3. Workers shall wear protective clothing and respirators.
 4. All openings into building near the work area shall be sealed with polyethylene sheeting or other appropriate covering.

5. A minimum of a remote three-chambered worker decontamination enclosure system shall be provided on site in accordance with OSHA 29 CFR 1926.1101, Appendix G. Procedures for the utilization of this system shall be established which prevent contamination of areas outside the roof area.
6. Category I Non-friable ACM shall be removed in small sections and containerized when wet. At no time shall material be allowed to accumulate or become dry.
7. The roofing materials shall be wetted down with amended water and shall be maintained in damp condition throughout the demolition and disposal process. Mechanical methods of cutting are prohibited (i.e., such as an RB roof cutter). An RB roof cutter means an engine-powered roof cutting machine with one or more rotating cutting blades the edges of which are blunt. (Equipment with blades having sharp or tapered edges, and/or which does not use a rotating blade, is used for "slicing" rather than "cutting" the roofing material; such equipment is not included in the term "RB roof cutter").
8. Category I Non-friable ACM shall not be dropped or thrown to the floor/ground level. For roofs of heights greater than fifty (50) feet above the floor/ground, a dust-tight enclosed chute shall be constructed to transport removed Category I Non-friable ACM to containers on the floor/ground. Category I Non-friable ACM may be dropped to a raised scaffold or containerized at elevated levels for disposal, and then lowered by crane or carried by hand.
9. All Category I Non-friable ACM shall be adequately wetted before being placed into containers for disposal. Dispose of all non-friable, Category I asbestos-containing roof material and associated demolition debris in a landfill that legally accepts the material utilizing a DEP approved Asbestos Waste Shipment Record.
10. A coating of encapsulating agent shall be applied to any porous surfaces that have been stripped of Category I Non-friable ACM to securely seal any residual fibers that may be present. The encapsulating agent should be chosen so as to be compatible with subsequent coverings.
11. Clean-up procedures using HEPA vacuuming and wet cleaning techniques shall be performed following abatement.

12. Personnel air monitoring of asbestos abatement workers, which demonstrates compliance with the provisions of OSHA 29 CFR 1926.1101 (f), may be used in lieu of clearance air sampling requirements.

3.04 DECONTAMINATION/WORK PROCEDURES

- A. In order to avoid possible exposure to dangerous levels of asbestos, and to prevent possible contamination of areas outside the demarcated work zone, work shall follow the guidelines listed below.
 1. At no time shall a worker entering the containment area go further than the Clean Room of the Decontamination Unit without a respirator and protective clothing.
 2. Before leaving the work area, the worker shall remove all gross contamination and debris from the coveralls. In practice this is carried out by one worker assisting another.
 3. All equipment used by the workers inside the demarcated work area shall be either left in the Dirty Room of the Decontamination Unit or thoroughly decontaminated before being removed from the area. Extra work clothing (that in addition to the disposable garments supplied by the Asbestos Abatement Subcontractor) shall be left in the Dirty Room of the Decontamination Unit until the completion of work in that area.
 4. All persons leaving the work area must shower before leaving the regulated area.
 5. Under no circumstance shall workers or supervisory personnel be allowed to eat, drink, smoke, chew gum, or chew tobacco in the work area; to do so shall be grounds for the Consultant to stop all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.
 6. As with additional clothing, all footwear shall be left inside the work area until the completion of the job, then cleaned or discarded.

3.05 PACKING AND DISPOSAL OF ASBESTOS WASTE

- A. Waste removal procedure shall be done in accordance with all regulations as set forth by the agencies having authority to regulate.

- B. The Asbestos Abatement Subcontractor shall provide proof that disposal sites for the waste materials have current and valid permits in order to dispose of asbestos waste at the time of the pre-construction meeting.
- C. Receipts shall be obtained by the Asbestos Abatement Subcontractor from the dumping site(s), and submitted to the Owner upon request for final payment.
- D. Warning labels having permanent, waterproof print and adhesive shall be affixed to all bags, trucks, drums (lids and sides), and other containers used to store and/or transport asbestos-containing material. Labels must be conspicuous and legible and contain the following warning:

CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

- E. The Asbestos Abatement Subcontractor shall be responsible for all necessary precautions to prevent pollution by spilling during the performance of services and shall assume full responsibility for all Asbestos Abatement Subcontractor caused spills, which shall be cleaned up at the Asbestos Abatement Subcontractor's expense.
- F. Temporary storage of asbestos waste on-site must be approved by the Owner.
- G. All waste shall be thoroughly wetted when packaged for disposal. Acceptable packaging includes double bagged in 6 mil waste disposal bags, double wrapped in 6 mil polyethylene sheeting, and/or loaded into a lined dumpster with two 10 mil preformed liners and sealed air tight.

3.06 HOUSEKEEPING

- A. Throughout the work period, the Asbestos Abatement Subcontractor shall maintain the building and site in a standard of cleanliness as specified throughout these Sections.
 - 1. Contaminated disposable clothing, respirator filters, and other debris shall be bagged and sealed at the end of each work day.
 - 2. All asbestos generated by either removal or repair, shall be bagged immediately and not allowed to be left exposed at the end of each work day.
 - 3. Respirators shall be thoroughly cleaned at the end of each work day and stored for the next days use.

4. The Asbestos Abatement Subcontractor shall retain all stored items in an orderly arrangement allowing maximum access, not impeding traffic, and providing the required protection materials.
5. The Asbestos Abatement Subcontractor shall not allow the accumulation of scrap, debris, waste material, and other items not required for completion of the work.
6. The Asbestos Abatement Subcontractor shall provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the ecology.
7. Daily, and more often if necessary, the Asbestos Abatement Subcontractor shall inspect the work areas and adjoining spaces, and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
8. The Asbestos Abatement Subcontractor shall maintain the site in a neat and orderly condition at all times.

3.07 AIR MONITORING

- A. During removal of caulking/sealant materials, area samples may be collected by the Consultant outside the roof and window work areas, just outside the clean room, and inside the regulated area. The Asbestos Abatement Subcontractor shall be responsible for all OSHA personal sampling.

3.08 WORK REVIEW

- A. Consultant will review the Asbestos Abatement Subcontractor's work practices prior to the start of and at periodic during asbestos related work and will report any Section violations to the Asbestos Abatement Subcontractor. If the Asbestos Abatement Subcontractor fails to correct deficiencies in a timely manner, the Owner will be notified in writing, and work may be stopped. The Consultant will review the containment structure and negative air conditions before work begins and after the Asbestos Abatement Subcontractor Site Supervisor has given approval. Outside airborne fiber concentrations must not exceed 0.010 fibers/cc or pre-abatement levels, whichever is greater. If concentrations exceed this level, then work must be stopped, conditions reviewed as to the probable cause, and then corrected.
- B. Consultant will keep a daily log of the Asbestos Abatement Subcontractor's work practices and will make these daily logs a part of the final project documents.

- C. In addition to various daily inspections of engineering controls and work practices, Consultant will make three (3) mandatory inspections throughout the removal work. These inspections include: a pre-abatement visual inspection, a post-abatement visual inspection, and a post-teardown visual inspection.
- D. Each inspection must be requested by the Asbestos Abatement Subcontractor and performed by Consultant, to the satisfaction of the Consultant, and be signed off by the Consultant, before work is to continue on next task in the phase. Failure on the part of the Asbestos Abatement Subcontractor to obtain sign-off before proceeding is regarded as a serious violation of the contract and unacceptable.

END OF SECTION

DIVISION 02

SUBSURFACE INVESTIGATION & DEMOLITION

SECTION 02 90 00

LANDSCAPING REPAIR

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Repair existing landscaping and paving at all areas **damaged as a result of the construction**, including but not limited to:
 - 1. Replacing and planting of trees, shrubs and grass including mulching, staking and related planting procedures of landscaping items damaged during construction.
 - 2. Preparation of final sub-grades in planted areas.
 - 3. Furnishing topsoil at areas to be planted.
 - 4. Planting mixes
 - 5. Protection, maintenance and guarantee of plant materials.
 - 6. Existing tree protection and care
 - 7. Samples of materials.

1.03 QUALITY ASSURANCE

- A. Comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
- B. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.
- C. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years.

1.04 SAMPLES

- A. Submit the following samples in accordance with the requirements of GENERAL CONDITIONS and SUPPLEMENTAL GENERAL CONDITIONS.
 - 1. Mulch
 - 2. Anchors
 - 3. Wire
 - 4. Hose
 - 5. Turnbuckles and cable clamps
 - 6. Wrapping
 - 7. Topsoil
- B. Provide samples for testing as required by Architect.

PART 2 – PRODUCTS

2.01 TOPSOIL

- A. Topsoil shall be a fertile, friable natural topsoil not excessively acid or alkaline and free of toxic substances harmful to plant growth. Topsoil shall be without admixture of subsoil and free from clay lumps, stumps, roots, debris, stones, or other similar substances 2" or more in diameter.

It shall be obtained from a well-drained arable site with a history of good plant growth. Submit sample for approval by the Landscape Architect.

2.02 SLUDGE FERTILIZER

- A. Sludge fertilizer shall be an organic activated, granular, heat dried sludge and shall contain the following minimum percentages by weight: 6% Nitrogen, 4% Phosphoric Acid, and other nutritious basic elements. The sludge fertilizer shall be delivered as specified in standard size bags, showing weight analysis and name of processor and shall be stored in a weatherproof storage place.

2.03 COMPOSTED COW MANURE

- A. Manure shall be a derivative of cattle manure which has undergone a period of composting rendering it into a crumbly, odor free, weed free material containing beneficial natural soil bacteria. It shall be free of harmful chemicals and other injurious substances. Manure shall be free of refuse of any kind and shall not contain more than 25% of straw, shavings, leaves, or other material. Manure shall not be more than 2 years nor less than 9 months old.
- B. A composition of peat moss or peat humus to which has been added dehydrated manure such as bovung in the proportion of 100 pounds of dehydrated manure per cubic yard of peat, may be substituted for manure as specified above.

2.04 BONE MEAL

- A. Bone meal shall be commercial raw bone meal, finely ground, having a minimum analysis of 4% nitrogen and 20% phosphoric acid.

2.05 WATER

- A. Water will be furnished by Owner on the site. Hose and other watering equipment shall be furnished by Contractor.

2.06 PLANT MATERIALS

- A. Contractor shall replace in kind and plant all plants or lawn damaged or killed during construction. No substitutions will be permitted. All plants shall be nursery grown unless specifically authorized to be collected.
- B. Plant shall be in accordance with the USA Standard for Nursery Stock of the American Association of Nurserymen.
- C. All plants shall be typical of their species or variety and shall have a normal habit of growth and be legibly tagged with the proper name. All plants shall have been grown under climatic conditions similar to those in the locality of the site of the project under construction, or have been acclimated to such conditions for at least 2 years. Trees shall have straight trunks and all abrasions and cuts shall be completely culled over.

- D. The root system of each shall be well provided with fibrous roots. All parts shall be sound, healthy, and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae.
- E. All plants must be moved with the root systems as solid units with balls of earth firmly wrapped with burlap. The diameter and depth of the balls of earth must be sufficient to encompass the fibrous root feeding system necessary for the healthy development of the plant. No plant shall be accepted when the ball of earth surrounding its roots has been badly cracked or broken preparatory to or during the process of planting or after the burlap, staves, ropes or platform required in connection with its transplanting have been removed. The plants and balls shall remain intact during all operations. All plants shall be freshly dug. No plants from cold storage or previously heeled-in will be accepted. All plants that cannot be planted at once must be heeled-in by setting in the ground and covering the balls with soil and then watering.
- F. The height of the trees (measure from the crown of the roots to the tip of the top branch) shall be not less than that of the tree being replaced. The branching height for shade trees next to walks shall be 7'. This may be obtained by pruning after delivery if this does not ruin the shape or form of the trees or cause unsightly scares. All cuts shall be shellacked. The trunk of each tree shall be a single trunk growing from a single unmutilated crown of roots. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety. The trunk shall be free from sunscald, frost cracks, or wounds resulting from abrasions, fire or other causes. No pruning wounds shall be present having a diameter exceeding 2" and such wounds must show vigorous bark on all edges. No trees which have had their headers cut will be accepted.
- G. Shrubs shall meet the requirements for spread of height of the shrub being replaced. The measurements for height are to be taken from the ground level to the average height of the shrub and not to the longest branch. The thickness of each shrub shall correspond to the trade classification No. 1.

Single stemmed or thin plants will not be accepted. The side branches must be generous, well-twigged, and the plant as a whole well branched to the ground. The plants must be in a moist vigorous condition, free from dead wood, bruises or other root or branch injuries.

2.07 MULCH

- A. Mulch material shall be softwood hemlock bark shredded into fibrous pliable slices generally not exceeding 1/2" in width.

Mulch shall be 98% organic matter with the pH range 3.5 to 4.5. Moisture content of packaged material shall not exceed 35%. Submit sample.

2.08 STAKING MATERIALS

- A. Stakes for supporting trees shall be of sound wood, uniform in size, free of knots and holes. They shall be nominal 2" x 4" and 10' long for support staking, 3' long for guy wire anchor stakes. Stakes shall be stained dark brown.
- B. Wire for tree bracing and guying shall be pliable No. 12 gauge galvanized steel.
- C. Hose for covering wire shall be new or used 2 ply reinforced rubber garden hose not less than 1/2" inside diameter.
- D. Wrapping material shall be first quality, heavy waterproof crepe paper manufactured for this purpose, or first quality burlap not less than 4" nor more than 6" wide of suitable strength and manufactured for this purpose.

PART 3 - EXECUTION

3.01 METHODS

- A. Personnel: The planting and lawn construction shall be performed by personnel familiar with the accepted procedure of planting and under the constant supervision of a qualified planting foreman.
- B. Planting Seasons:
 - 1. Deciduous plants shall be planted only when dormant, that is, before leaves appear in the spring and subsequent to their loss in the fall, unless otherwise directed by the Architect.
 - 2. Evergreen plants may be planted in the spring until new growth appears and any time between September 15 and November 30.
 - 3. If the building completion date prohibits in-season planting, the Contractor shall complete his work within the project date and prepare himself for out-of-season planting, including wiltproofing and extra watering.

Plant guarantee periods remain as stated below. No frozen ground planting.
- C. Lawn Replacement
 - 1. Remove all areas of dead lawn including root system. The Architect shall be the sole authority as to the extent of lawn replacement areas.
 - 2. Contractor to provide a minimum of 6" of new loam in all areas of lawn replacement. Peat moss shall be mixed into existing hard and/or clay type

soil. Architect shall determine the need for and amounts of peat moss required.

3. New grass shall be sod of rye grass, blue grass or a combination of both.
4. Apply starter fertilizer to all areas of newly planted grass.
5. Maintain constant moist soil conditions, a minimum of thirty days.

D. Planting of Trees, Shrubs, and Vines:

1. Unless otherwise directed by the Architect, the indication of a plant to be replaced is to be interpreted as including the digging of a hole, furnishing a plant of the specified size, the work of planting and mulching, and guying, staking and wrapping where called for.
2. One or more stockpiles of approved backfill mixture shall be maintained at all times during the planting operations. The backfill mixture shall consist of 50% topsoil and 50% specified composted cow manure by volume, thoroughly mixed together. The following shall be added to each area of tree replacement:

5 lbs. of sludge fertilizer

5 lbs. of bone meal

5 lbs. of cottonseed meal

The following shall be added to each area of lawn replacement:

1 lb. sludge fertilizer

1 lb. bone meal

1 lb. cottonseed meal

3. Locations for all plants shall be staked on the ground and must be approved by the Architect before any excavation is made. Adjustments in locations and outlines shall be made as directed. In the event that areas for planting are prepared and backfilled with Backfill Mixture to grade prior to commencement of lawn operations, they shall be so marked that when the work of planting proceeds, they can be readily located.

In case underground obstructions such as ledge or utilities are encountered, locations shall be changed under the direction of the Architect without extra charge.

4. Holes for trees shall be at least 2' greater in diameter than the spread of the root systems and at least 6" deeper than root ball. Holes for shrubs and vines shall be at least 12" greater in diameter than the spread of the root system and at least 18" deep.
5. Specified backfill mixture shall be spread and incorporated with loam in all areas of tree or lawn replacement and as directed by the Architect.
6. Planting: All plant roots and earthballs must be kept damp and thoroughly protected from sun and/or drying winds at all times from the beginning until the final operation, during transportation, and on the ground until the final operation of planting. The plants shall be planted in the center of the holes and at the same depth as they previously grew. They shall be plumbed and turned as directed. Specified Mixture shall be backfilled in layers of not more than 9" and each layer watered sufficiently to settle before the next layer is put in place. Backfill Mixture shall be tamped under edges of balled plants. Enough Backfill Material shall be used to bring the surfaces to finish grade when settled.
 - a. A saucer shall be provided around each plant.
 - b. Plants must be flooded with water twice within the first 24 hours of time of planting.
 - c. Wrapping: The trunks of all shade trees shall be wrapped spirally from the ground to the height of the second branches or as directed. Wrap brown cord 3" on center spirally to hold paper neatly in place.
 - d. Provide a 3" layer (after settlement) of bark mulch over the surface of each saucer and over the entire area of shrub beds.
 - e. Stake all trees.

E. PLANTING COORDINATION:

1. Replacement plantings must match existing for type and caliber of trees and size of shrubs.
2. The Contractor shall be responsible for selection and tagging at nurseries stocking the specified materials.
3. Contractor shall inform Architect when planting will commence, anticipated delivery date of material and have made and provided for the staking of all plants and plant bed.

4. Failure to notify the Architect in advance, in order to arrange proper scheduling may result in loss of time or removal of any plant or plants not installed as specified or directed.

3.02 PRUNING

- A. Each tree and shrub shall be pruned in accordance with American Nurserymen Association Standards to preserve the natural character of the plant.
- B. All dead wood or suckers and all broken or badly bruised branches shall be removed. In addition, 1/3 of the wood may be removed by thinning out to balance root loss due to transplanting providing the natural character and form of the tree is preserved. Never cut a leader.
- C. Pruning shall be done with clean, sharp tools.
- D. Cuts over 1" in diameter shall be painted with an approved asphaltic tree paint. Paint shall cover all exposed living tissue.

3.03 MAINTENANCE

- A. Maintenance shall begin immediately after each plant is planted. Plants shall be watered, mulched, weeded, pruned, sprayed, fertilized, cultivated and otherwise maintained and protected for a minimum of 30 days until provisional acceptance. Settled plants shall be reset to proper grade and position, planting saucer restored and dead material removed. Stakes and wire shall be tightened and repaired.

Defective work shall be corrected as soon as possible after it becomes apparent and weather and season permit.
- B. Upon completion of planting and prior to provisional acceptance, remove from the site excess soil and debris, and repair all damage resulting from planting operations.
- C. Protection: Planting areas and plants shall be protected against trespassing and damage of any kind. This shall include the provision and installation of approved temporary fencing if necessary. If any plants become damaged or injured by vandalism or neglect of others prior to provisional acceptance, the Contractor shall treat or replace them at his own expense.

3.04 ACCEPTANCE AND GUARANTEE

- A. After the 30-day maintenance period, the Contractor shall request from the Architect an inspection to determine whether the plant material is acceptable. If the plant materials and workmanship are acceptable, written notice shall be given

by the Architect to the Contractor stating that the guarantee period begins from the date of inspection.

- B. If a substantial number of plants are sickly or dead at the time of inspection, acceptance will not be granted, and the Contractor's responsibility for maintenance of all plants shall be extended until replacements are made. Replacements shall conform in all respects to specifications for new plants and shall be planted in the same manner.
- C. Materials and Operations: All replacements shall be plants of the same kind and size specified on the plant list. They shall be furnished and planted as specified above. The cost shall be borne by the Contractor. Replacements resulting from the removal, loss or damage, due to occupancy of the project in any part, vandalism, or acts of neglect on the part of others, physical damage by animals, vehicles, etc., and losses due to curtailment of water by local authorities, will be approved and paid for by the Owner.
- D. Plants shall be guaranteed for a period of one year after inspection and shall be alive and in satisfactory growth at the end of the guarantee period.
- E. At the end of the guarantee period, inspection will be made again. Any plant required under this Contract that is dead or unsatisfactory shall be removed from the site. These shall be replaced during the normal planting season, until the plants live through one year.

END OF SECTION

DIVISION 04

MASONRY

SECTION 04 21 00

BRICK MASONRY

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect Work of this Section whether or not such Work is specifically mentioned in this Section.
- C. Coordinate Work with that of all other trades affecting or affected by Work of this Section. Cooperate with such trades to assure the steady progress of all Work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that the materials and equipment to be furnished complete in every respect, and that this Contractor shall provide all items needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the Work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Brick Masonry Work required to complete the Work of the Contract including all the Brick Masonry Work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Brick Masonry Work with all the other trades for the project. Provide all demolition and disposal Work to complete the Brick Masonry Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All Work of the Contract is related. It is the General Contractor's responsibility to review all the Work of each section, and each Subcontractor for the entire project so that all the Work can be properly and completely performed.
- B. Work included: Provide labor materials and equipment necessary to complete the Work of this section, including but not limited to the following:
 - 1. Repoint 100% of existing brick masonry chimneys, refer to drawings for scope of repointing.

2. Work performed without the approval of the Architect will not be paid for.

1.03 QUALITY ASSURANCE

- A. Obtain materials from approved individual sources in sufficient quantities to complete each portion of the Work.
- B. Mortar ingredients shall be of uniform quality, texture and color to match original.
- C. Referenced Standards: Conform to State and Local Governing laws, Massachusetts or State Building Code, and the following standards:
 1. Brick institute of America.
 2. Portland Cement Association.
 3. ASTM.

1.04 SUBMITTALS

- A. Product Data:
 1. Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements.
- B. Samples: All samples shall be presented for approval by the Owner and CBI.
 1. Mortar:
 - a. Mortar shall match original texture, color, joint size and finish.
 - b. Provide fully washed, cured, and dry mortar samples in a variety of colors for decision by the Architect. Provide samples in advance of the Work so as not to adversely affect the schedule.
 - c. No limit to number of samples.
 - d. CBI shall be contacted prior to the samples being performed in order that the pointing procedures can be viewed; said procedures shall be representative of the pointing procedures for the entire project, provided they are performed per this specification section and BIA standards.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials in undamaged condition.
- B. Storage and Handling:
 - 1. Store and handle brick masonry units and materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
 - 2. Limit moisture absorption of brick masonry units and cement lime, etc., during delivery and until time of installation to the maximum percentage specified for brick for the average annual relative humidity as reported by the U.S. Weather Bureau Station nearest project site.
 - 3. Store cementitious materials off the ground, under weathertight covers or indoors, and kept clean and dry.
 - 4. Store aggregates where grading and other required characteristics can be maintained.
 - 5. Store masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

1.06 PROJECT/SITE CONDITIONS

- A. Protection of Work:
 - 1. During erection, cover top of masonry element with waterproof sheeting at end of each day's Work.
 - 2. Cover partially completed structures when Work is not in progress.
 - 3. Extend cover min. 24 in. down both sides and hold cover securely in place.
 - 4. Do not apply loads for min. 3 days after building masonry walls.
- B. Staining:
 - 1. Prevent grout, mortar or soil from staining the face of masonry to be left exposed.
 - 2. Remove immediately grout or mortar in contact with such masonry.

3. Protect base of walls from rain-splashed mud and mortar splatter by means of covering spread on ground and over wall surface.
4. Protect sills, ledges, and projections from droppings of mortar.

C. Cold Weather:

1. No Masonry Work will be performed in temperatures lower than 40 degrees F and no material will be allowed to freeze within 48 hours of installation.
2. Provide temporary heat and winter protection at all new masonry to maintain temperature above 40 degrees F until cured.
3. Mortar admixtures are not allowed on this project.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Masonry Mortar

1. Mortar: Shall conform to ASTM C270, Type N, consisting of one (1) part Portland Cement (ASTM C150, Type 1, and meeting efflorescence requirements below), 1/2 to 1-1/4 parts hydrated lime (ASTM C207, Type S), and sand (ASTM C144) in quantity of not less than 2-1/2 nor more than 3 times the sum of the quantities of cement and lime, by volume.
2. New mortar at all repointing locations shall match the original mortar in color, texture, aggregate and finish.
3. Water shall be potable and free of injurious contaminants.
4. No admixtures of any type will be permitted.
5. Mixing:
 - a. Combine and thoroughly mix cementitious, water, and aggregates in a mechanical batch mixer.

B. Woven inserts for weephole slots shall be as manufactured by CavClear or Mortar Net, or approved equal, color to match mortar and filling opening to restrict insect access.

C. Cleaning Agent: Detergent, solvent cleaner, non-acid solution type: as manufactured by Prosoco, Sure Klean, or equal.

PART 3 - EXECUTION

3.01 MASONRY CONSTRUCTION, GENERAL

- A. Masonry Work shall be done by skilled workmen, fully instructed as to the requirements of this specification, and adequately supervised during the Work.
- B. Cold Weather Masonry:
 - 1. Do no Masonry Work when outdoor temperatures are less than 40° F unless provisions are made to adequately protect the masonry materials and finished Work from frost by heating materials, enclosing the Work, and heating the enclosed spaces.
 - 2. Antifreeze admixtures will not be allowed in the mortar. No frozen Work shall be built upon. No masonry unit having a film of frost on its surface shall be laid in the Work. Any completed Work found to be affected by frost shall be taken down and rebuilt.
- C. Lay masonry plumb; true to line; with level courses; straight, clean, uniform joints; dry surfaces; and straight, plumb corners. Maintain vertical alignment of joints as required to match original bond patterns. Align horizontal joints with tops of openings, as indicated. Lay units in solid partitions in manner to provide same evenness of surface on each side.
- D. Adjust each masonry unit in final position while mortar is still soft and plastic. Remove any unit disturbed after mortar has stiffened and re-lay with fresh mortar.
- E. Provide all chases, slots, and recesses as required to accommodate the Work of other trades. Close only after such Work has been installed tested, and approved. As the Work progresses, set all anchors, bolts sleeves, frames, lintels, and all other items of the various trades required to be built-into the masonry. No cutting and patching of completed Masonry Work will be permitted except as approved by CBI.
- F. Do not use installed masonry Work to support or in any way receive scaffolding or other temporary supports.
- G. Provide complete protection against breakage, staining and weather damage to masonry. Masonry, when not roofed over, shall be positively protected with non-staining waterproof coverings, properly weighted, at night, during showers, and whenever masons are not working on the structure.

- H. Maintain masonry clean as the Work progresses. Exercise extreme care at exposed Work to prevent smearing or staining with mortar. Wash mortar stains immediately from exposed surfaces. At completion of Work cut out and repoint all holes and defective joints, leaving the entire Work free of blemishes.

3.02 POINTING

- A. Sawcut all joints to be pointed to a minimum depth of $\frac{3}{4}$ ".
- B. New mortar shall match the existing masonry mortar. Point a sample area, 2' x 2' for approval. No Work shall commence without approval of sample by the Owner and CBI. CBI shall be on site to observe the pointing procedures. Said procedures shall be representative of the procedures used throughout the project provided they are performed per this specification section and BIA standards.
- C. Pointing:
 - 1. During the tooling of joints, enlarge any voids or holes and completely fill with mortar prior to pointing.
 - 2. Mortar shall be applied in $\frac{3}{8}$ " lifts maximum. Additional lifts shall be applied only when the previous lift is "thumbprint" hard.
 - 3. The use of mortar bags and/or mortar guns is prohibited. Use of such equipment will result in rejection of the work.
 - 4. Point up all joints including corners, openings, and adjacent Work to provide a neat, uniform appearance, prepared for application of sealants.
 - 5. The following BIA Technical Standards shall be included as part of this specification section: Technical Notes 8B; Technical Notes 46. Should there be a discrepancy between this specification and the BIA Technical Notes, the more stringent of the two shall apply.

3.03 ADJUSTING AND CLEANING

- A. Damaged Masonry:
 - 1. Any existing brick masonry damaged during construction is to be replaced at contractor's expense. Color and shape is to match existing brick masonry and must first be approved by both the owner and the architect.

B. Final Cleaning

1. General:
 - a. After mortar is thoroughly set and cured, clean masonry.
 - b. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - c. Test cleaning methods on sample wall panel; leave 1/2 panel unclean for comparison purposes.
 - d. Obtain approval of CBI for sample cleaning before proceeding with cleaning of masonry.
 - e. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking.
2. Clean masonry to comply with masonry manufacturer's directions and BIA Technical Standards requirements.

END OF SECTION

DIVISION 05

METALS

SECTION 05 51 00

METAL LADDER

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Metal Ladder work required to complete the work of the contract including all the Metal Ladder work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Metal Ladder work with all the other trades for the project. Provide all demolition and disposal work to complete the Metal Ladder work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section and each sub-Contractor for the entire project so that all the work can be properly and completely performed.
- B. Miscellaneous Metals work includes, but is not limited to:
 - 1. Remove and dispose of existing wood ladder in its entirety.
 - 2. Provide and install new shop fabricated metal ladder, as shown on the plan. Provide all other Metal Ladder work shown on the plans.
 - 3. All miscellaneous metals shall be steel. Care shall be taken to pad and protect the finish during transportation.

1.03 RELATED WORK

- A. Section 061053, Wood Blocking
- B. Section 077233, Roof Hatches

1.04 SUBMITTALS

- A. Submit complete shop drawings in accordance with the provisions of SECTION 01 30 00 - SUBMITTALS in GENERAL REQUIREMENTS.
- B. Do not commence fabrication of any work or begin installation until approval has been obtained from the Consultant.

1.05 STANDARDS AND CODES

- A. The following Specifications, Standards and Codes of current issue form a part of this Specification.
- B. American Society for Testing and Materials: A36, A48, A53, A123, A143, A149, A153, A246.
- C. American Iron and Steel Institute, applicable standards.
- D. American Institute for Steel Construction (AISC): Code of Standard Practice for Steel Buildings and Bridges: Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings.
- E. Federal Specs: QQ-1-652A, Iron Gray Castings; QQ-S741a, Steel Plates, Shapes and Bars, Carbon, Structural: WW-P521 Malleable Iron.
- F. American Welding Society Code: Standard Code for Arc and Gas Welding in Building Construction.
- G. National Association of Architectural Metal Manufacturers, applicable publications.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All metals shall be free from defects impairing strength, durability or appearance and shall be of best commercial quality for each intended purpose.
- B. Fastenings which are exposed shall be of same material, color and finish as the metal to which they are applied, unless otherwise shown on the Drawings, or specified. All items employed with galvanized steel shall be hot-dipped galvanized ferrous metal. All fastenings shall be of heavy gauge as customarily used in the trades to safely support the required loads.
- C. Steel shapes shall conform to the requirements of ASTM A36 for Structural Steel. Steel pipe shall conform to ASTM A53.
- D. Filler Metal for Welding: Welding electrodes for manual shielded metal arc welding shall conform to ASTM A233-58T, E60 or E70 Series. Bare electrodes

and granular flux used in the submerged arc process shall conform to AISC Specifications.

- E. Details and specifications of accessory items for which standard products are available are representative guides to requirements for such items. Standard products generally meeting such requirements will be accepted if details of construction and installation are approved by the Consultant.

2.02 WELDING

- A. Welding shall be continuous. Tack welding will not be permitted for finished work. All exposed welds shall be clean and ground smooth.
- B. Where structural joints are made by welding, the details of all joints, the techniques of welding employed, the appearance and quality of welds made, and the methods used to correct defective work shall conform to AISC and AWS Codes.
- C. Welds shall be made only by certified welders who have previously been qualified by tests as prescribed in AWS Standard Qualification Procedure for the type of work required.
- D. The use of a gas cutting torch in the field for correcting fabrication errors will be permitted on structural framing members only when the prior written approval of the Consultant has been obtained for each specific condition.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. All work shall be executed by experienced mechanics and shall conform to details, be clean and straight with sharply defined profiles. Unless otherwise particularly noted, finished surfaces shall have smooth finish.
- B. Shearing and punching shall be done cleanly so as not to deform or mar adjacent surface.
- C. Shop connections shall be welded and field connections bolted unless otherwise indicated. Bolts shall be turned up tight and threads deformed to prevent loosening.
- D. Castings shall be sound and free from warp, holes and other defects that impair strength and appearance. Exposed surfaces shall have a smooth finish with sharp well-defined lines and arises. Machined joints shall be milled to a close fit. Provide all necessary lugs, brackets and similar items so that work can be assembled and installed in a neat substantial manner.
- E. Flanges shall be concealed where practicable. Thickness of metal and details of assembly and support shall be such as to provide ample strength and stiffness.
- F. Provide holes and connections as required to accommodate work of other trades and for site assembly of metal work. Holes shall be drilled or punched and

reamed in the shop. Show sizes and locations of all such holes on the shop drawings.

- G. Joints and connections exposed to weather shall be formed to exclude water.
- H. All materials and workmanship under this Section shall be subject to inspection in the mill, shop or field by the Consultant, or by qualified inspectors retained by the Owner. Inspection shall be without expense to the Owner. However, such inspection, wherever conducted, shall not relieve Contractor of his responsibility to furnish materials and workmanship in accordance with Contract requirements.

3.02 INSTALLATION

- A. Take all required measurements at the building site. Check measurements, compare dimensions and other data with various trades installed adjoining work to assure proper coordination.
- B. Conform to AISC Code for all drilling and fitting, cutting, welding, bolting and riveting required to erect, install and fit metal work to adjoining work. Furnish all screws, bolts, anchors, etc., required to attach metal work securely to adjoining work.
- C. Do not cut or alter members in the field without Consultant's approval. Do not enlarge unfair holes by burning and forcing, but correct by reaming.
- D. Be responsible for the correct location of miscellaneous metal work, including anchor bolts and base plates, and angles. Take particular care to maintain steel shapes, etc., plumb and level during the construction.
- E. All work shall be accurately set to established lines and elevations and rigidly fastened in place with suitable attachments to the construction of the building.
- F. Furnish, fabricate, install and anchor all light iron, miscellaneous metal work as indicated on the Drawings and as specified herein. Install all supports and anchors for miscellaneous metal work.
- G. Furnish all required anchors, anchor bolts, fastenings, etc., for attachment of work of all trades to concrete and masonry, except where otherwise specified or obviously included under other Sections of the Specifications.
- H. Clean up site of all debris, tools and materials daily.

3.03 PROTECTION

- A. The Contractor is responsible for protecting the finish of the railings after coating during storage, delivery and installation.
- B. Touch-up scrapes, scratches and any other mar in the finish after installation as per the specification.
- C. If Consultant determines that the paint finish has been damaged by the Contractor, beyond repair by touch-up, the entire railing section shall be removed and taken

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

back to the shop and re-finished as per the specification and at no additional cost
to the Owner.

END OF SECTION

METAL LADDER
05 51 00 - 5

DIVISION 06

WOOD AND PLASTICS

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Rough Carpentry work required to complete the work of the contract including all the Rough Carpentry work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Rough Carpentry work with all the other trades for the project. Provide all demolition and disposal work to complete the Rough Carpentry work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Rough Carpentry work includes, but is not limited to:
 - 1. All General Contractor's temporary work, including barricades, tarpaulins, protective covers, dust barriers, scaffolding, and entrances.
 - 2. Installation of materials supplied under other specification sections, including but not limited to: Blocking.
 - 3. Wood framing and blocking required to complete the work.
 - 4. The replacement of existing deteriorated tongue and groove wood decking with new tongue and groove wood decking to match existing.

ROUGH CARPENTRY

1.03 QUALITY ASSURANCE

- A. Softwood Lumber Standards: Provide lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's Board of Review.
- B. Plywood Standards: Provide plywood to comply with PSI-74 "US Product Standard for Construction and Industrial Plywood" for plywood panels and, for products not manufactured under PSI provisions, with American Plywood Association (APA) "Performance Standard and Policies for Structural Use Panels" and with ANSI A199.1.
- C. Grade Stamps: Each piece of lumber and plywood delivered to job site shall have factory-market grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species and moisture content at time of surfacing, and mill.
- D. Preservation treated lumber shall be marked according to AWPB Quality Mark Requirements, complying with AWPB LP-2.

1.04 PRODUCT HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood. Provide for air circulation within and around stacks and under temporary coverings.

1.05 JOB CONDITIONING

- A. Time delivery and installations of carpentry work to avoid delaying other trades whose work is dependent on or affected by the carpentry work and to comply with protection and storage requirements.
- B. Contractor must examine the substrates and supporting structures and the conditions under which the carpentry work is to be installed, and notify the Owner in writing of conditions until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- C. Coordinate location of furring, nailers, blocking, grounds, and similar supports so that attached work will comply with design requirements.

1.06 SUBMITTALS

- A. Within thirty (30) days after Notice to Proceed, submit complete materials data and Shop Drawings in full compliance with Section 01 31 00.
- B. Submit a complete list of all materials and products required to complete the work of this Section.
- C. Submit full Product Data of all manufactured or proprietary items, and certification of compliance with these requirements for all items to be furnished exactly as specified.

- D. Submit Shop Drawings of all items to be fabricated off or on site as requested by the Consultant or required for proper coordination of the work. Shop Drawings may include detailed framing plans and elevation, bracing or connection details, sheathing layouts, schedules or diagrams of openings, and other information.

PART 2 – PRODUCTS

2.01 LUMBER, GENERAL

- A. General Quality: Lumber shall be of new, sound stock, straight, or consistent size, free of stains, and mildew, and be surfaced on four sides. Lumber which will be incorporated into the finished work shall have a moisture content of not more than 19%.
- B. Nominal sizes are indicated, except as shown by detailed dimensions. Provide dressed or worked and dressed lumber as applicable manufactured to the actual sizes as required by PS20 or to actual sizes and patterns as shown, unless otherwise indicated.
- C. Lumber lengths: Lumber shall be furnished in longest particle lengths with respect to each intended use, and single length pieces shall be used whenever possible.

2.02 LUMBER, MATERIAL

- A. Dimensional: "Concealed" Lumber
1. Temporary Framing: Provide "Standard" grade lumber, any species.
 2. Concealed Boards, Blocking: Provide Southern Pine No. 2 or any species graded construction boards per WCLIB or WWPA rules. Concealed boards shall have maximum moisture content of 19%.
 3. Plywood: Provide marine grade plywood panels in thickness indicated on the drawings or, if not otherwise indicated provide 1/2" thickness.
 4. Preservative- treated Lumber shall be impregnated under pressure with water-borne preservative to comply with AWPA-U1. All treated wood shall be kiln-dried to a maximum moisture content of 19%. All field cuts shall be treated with compatible preservative materials.
- B. Fasteners and Anchorages: Provide size, type material and finish as indicated and as recommended by applicable standards and the Massachusetts building Code. Where carpentry work is exposed to weather, or exterior surfaces are in contact with the ground, provide fasteners and anchorages with hot-dip zinc coating.

2.03 ROUGH HARDWARE

- A. Fabricated hardware items shall be by Teco, Simpson, Heckman, or Silver as approved by the Consultant. In exterior areas or where in contact with concrete,

rough hardware shall be hot-dip galvanized. In other areas electrogalvanizing will be acceptable. Select products for size of members joined or supported and to develop the full strength of the members.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Coordination: Fit carpentry work to other work; scribe, and cope for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.
- B. Defects: Discard lumber or other material with defects which might impair the quality of work.
- C. General Execution: Construct all carpentry work called for in the Drawings or reasonably inferable therefrom. Set carpentry work to required levels and lines, with members plumb, level and true to line and cut and fitted. Shim as required using concealed shims. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Where nailing or power driving into concrete or masonry, take care to avoid puncturing conduits, pipes, ducts, etc. embedded in such work.

3.02 LAYING OUT WORK

- A. The Contractor shall be responsible for establishing lines and levels in accordance with the conditions of the Contract and general requirements.
- B. Lay out all work in accordance with the Contract Documents, approved Shop Drawings, and completed portions of the work. Report all discrepancies to the Consultant promptly for correction and adjustment. In the event of failure to do so, be responsible for correction of any errors.

3.03 MISCELLANEOUS BLOCKING AND CARPENTRY

- A. Furring, blocking, and backing shall be furnished and installed where required for reception of wall board, formation of architectural features, concealment of pipes, conduits, ducts, attachment for supports for toilet room accessories, building specialties, and other fixtures. Contractor shall consult with the trades concerned and set furring and blocking they require.
- B. Dressed wood grounds shall be furnished and installed as indicated or as required for securing trim or other finish. Set grounds rigid, true, and in perfect alignment. Nail grounds to wood members, and secure to concrete or masonry with nailing blocks or plugs, or expansion type anchors. Provide wood stripping where indicated or required for the attachment of finish materials to wood, concrete, masonry, or other surfaces.

3.04 INTENT AND WORKMANSHIP

- A. It is not the intent of this Section to hereinafter define the types, sizes, or installation methods for each item of work. Methods of installation, joinery,

sizes, spacing of nailers and furring strips, and other information pertaining to the lumber, plywood, and other items of required work, shall be installed in accordance with the details on the Drawings for the specified areas involved.

- B. Work that is to be finished or painted shall be free from defects or blemishes on surfaces exposed to view that will show after the finish coat of paint is applied. Any material which is in any way defective and not up to specifications for quality and grade for its intended use, or otherwise not in proper condition, shall be rejected.

END OF SECTION

DIVISION 06

WOOD AND PLASTICS

SECTION 06 10 53

WOOD BLOCKING

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Wood Blocking Work required to complete the Work of the Contract including all the Wood Blocking Work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Wood Blocking Work with all the other trades for the project. Provide all demolition and disposal Work to complete the Wood Blocking Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All Work of the Contract is related. It is the General Contractor's responsibility to review all the Work of each section, each Subcontractor, and each file sub-bidder for the entire project so that all the Work can be properly and completely performed.
- B. Wood Blocking Work includes but is not limited to:
 - 1. Installation of all wood blocking and nailers required for and related to roofing work.

2. Actual heights of wood blocking at the roof edge shall match the height of the adjacent insulation. Actual heights of wood blocking within the roof shall match the height of the adjacent insulation. Blocking details are schematic and do not reflect the various heights of the blocking at the high points of the tapered insulation.
3. Installation of plywood backing for membrane flashing.

1.03 RELATED WORK

- A. Section 06100, Rough Carpentry

1.04 SUBMITTALS

- A. Submit complete shop drawings in accordance with the provisions of SECTION 01 31 00 - SUBMITTALS in GENERAL REQUIREMENTS.
- B. Submit the following samples in accordance with the provisions of SECTION 01 31 00 - SUBMITTALS in GENERAL REQUIREMENTS.
 1. Wood product data.
 2. Product data for all fasteners.
- C. Do not commence fabrication of any work or begin installation until approval has been obtained from the Consultant.

PART 2 – PRODUCTS

2.01 WOOD NAILERS

- A. Wood nailers shall be minimum #2 Structural Grade lumber.
- B. Plywood backing shall be Marine Grade CDX plywood.
- C. Fasteners shall be corrosion resistant, coated, hot dipped galvanized, stainless steel or other corrosion resistant material, screw type fasteners, bolts, expansion anchors, as detailed or as required by the membrane manufacturer, or approved equal.

PART 3 – EXECUTION

3.01 INSTALLATION OF WOOD NAILERS AND BACKING

- A. Install all wood nailers and plywood backing as shown in details. Nailers shall be installed using non-corrosive fasteners spaced to resist 300 pounds per foot

applied in any direction. All nailers to receive bolts shall be counter-bored to position the nut head slightly below the top of the nailer surface.

- B. Nailers should gap 1/8" at ends and corners. The thickness of the nailer shall be provided such that the top of the nailer is flush with the surface to which the membrane is to be applied. Shim with pressure treated stock to achieve correct height.
- C. Plywood backing should be gapped 1/8" at ends and corners. The thickness shall be as detailed on the plans. Fasteners shall be as detailed on the plans and at a minimum of 18" on center, staggered, if the spacing is not detailed.

END OF SECTION

DIVISION 07

THERMAL AND MOISTURE PROTECTION

SECTION 072200

ROOF INSULATION

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Roof Insulation Work required to complete the work of the contract including all the Roof Insulation Work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Roof Insulation Work with all the other trades for the project. Provide all demolition and disposal work to complete the Roof Insulation Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each Subcontractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Work of this Section includes but is not limited to:
 - 1. Install flat and tapered polyisocyanurate insulation on the roof deck of roof area A, to create positive drainage and to limit ponding water, and mechanically fasten.

- a. 1-1/2" minimum insulation thickness around the entire perimeter of roof area A with 1/4" foot tapered insulation.
 - b. Stagger the joints between insulation board layers.
2. Install 1/4" foot tapered polyisocyanurate crickets to direct flow and eliminate ponding water where indicated on the plans.
 3. Install 1/2" thick fiberglass faced water resistant gypsum panels on top of the insulation as a membrane underlayment over the entire roof.
 4. All insulation shall have a compressive strength of 20psi.

1.03 SUBMITTALS

- A. Submit complete shop drawings for insulation layout and thickness in accordance with the provisions of SECTION 01300 - SUBMITTALS in GENERAL REQUIREMENTS. The Contractor shall take sufficient probes and field measurements to determine the insulation requirements.
 1. Complete roof insulation plan indicating all the various insulation board types, thicknesses, and slopes.
- B. Submit the following samples in accordance with the provisions of SECTION 01300 - SUBMITTALS in GENERAL REQUIREMENTS.
 1. 12" x 12" insulation sample.
 2. Product literature for all materials in this section.
 3. Compressive strength test data.
- C. Do not commence fabrication of any work or begin installation until approval has been obtained from the Architect.

1.04 RELATED WORK.

- A. Section 061000, Carpentry
- B. Section 075430, PVC Single Ply Roofing

PART 2 – PRODUCTS

2.01 RIGID ROOFING INSULATION

- A. Insulation shall meet all identified code/insurance requirements.
- B. Insulation shall be approved in writing by insulation manufacturer for intended use, and for use with the membrane manufacturer's materials as part of their Full System Warranty.
- C. Insulation shall be compatible with the roofing membrane having a compressive strength of 20psi.

2.02 MEMBRANE UNDERLAYMENT

- A. The installed insulation shall be overlaid with a layer of ½" thick DensDeck Prime fiberglass faced water resistant gypsum panels, by Georgia Pacific, as underlayment for the membrane.

2.03 MECHANICAL FASTENERS

- A. Self tapping concrete screw fasteners, expansion anchors or drive pin fasteners for wood blocking into concrete:
 - 1. Fasteners and plates shall be Factory Mutual approved and meet F.M. Standard 4470 for corrosion resistance.
 - 2. Fastener manufacturer shall warranty the performance of the fastener and plates for the duration of the Roof manufacturer's warranty.
 - 3. Pullout tests shall be performed on site by the fastener manufacturer. The results of these tests plus a statement by the fastener manufacturer concerning the fasteners suitability for the intended job, and installation instructions shall be submitted to the roofing Contractor and the Roof manufacturer prior to the job start.

PART 3 – EXECUTION

3.01 INSTALLATION GENERAL

- A. Follow Factory Mutual Class 1 fire rating, and the 1-90 wind uplift fastening pattern requirements.
- B. Insulation shall be installed on properly prepared and dry deck surfaces. Insulation boards shall be uniform and square with no open butt joints, broken corners, edges, or similar flaws.

- C. Utilize tapered edge strips and fiberboard fillers at all drain locations. Step taper the surrounding insulation system down to the drain bowl locations. The minimum distance from the center of the drain bowl to the outer edge of the tapered drain sump shall be 24 inches.
- D. The minimum dimension on cut insulation boards shall be 12" with a minimum surface area of 2 square feet.
- E. The finished insulation system surface area shall be free from all asphalt and roof gravel contamination. Areas with asphalt or gravel contamination shall be removed and replaced.

3.02 SURFACE PREPARATION

- A. Prior to and during application all dirt, debris, and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods to ensure that surface to receive insulation is clean, smooth, and dry.

3.03 INSTALLATION OF INSULATION

- A. Insulation boards shall be installed in parallel courses with end joints staggered and adjacent boards butted together. Joints of alternate layers shall be staggered.
- B. Insulation joints shall be 1/4 inch or less in width. Joints wider than 1/4 inch shall be filled with the same insulation.
- C. Where field trimmed, insulation shall be fitted tightly around roof protrusions and terminations.
- D. No more insulation shall be applied than can be covered by the roofing membrane by the end of the day or the onset of inclement weather.
- E. Adhesive application where utilized shall be 100% coverage. Foam setup time is highly temperature sensitive. Accelerators shall be used when the air/ surface temperature is 40° F or below.
- F. Insulation boards and the gypsum membrane underlayment shall be set into the fresh adhesive before the surface begins to skin over, and be stepped down to achieve full adhesion to the substrate before the adhesive sets.

END OF SECTION

SECTION 07

THERMAL AND MOISTURE PROTECTION

SECTION 073150

SLATE SHINGLES

PART 1 - GENERAL

1.01 - GENERAL REQUIREMENTS

- A. Include the GENERAL CONDITIONS and applicable parts of Division 1 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this section. Cooperate with such trades to assure the steady progress of all work under contract.
- D. It is the intent of this Specifications and the Drawings to require that the equipment to be furnished complete in every respect, and that this contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 – WORK TO BE PERFORMED

- A. Provide all the Slate Shingle Work required to complete the work of the contract including all the Slate Shingle Work shown on the plans, listed in the specification and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Slate Shingle Work with all the other trades for the project. Provide all demolition and disposal work to complete the Slate Shingle Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-Contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.

- B. Slate Shingle Work includes, but is not limited to:
1. Remove and dispose of all existing Slate roofing at roof areas B through N, including all existing Slate shingles, felt building paper, copper valley flashing, copper ridge cap, step flashing, sealants and other associated roofing components down to tongue and groove wood deck to remain.
 2. Install new 12" x 18" Slate shingle roofing assembly at roof areas B through N, including all blocking. Provide new slate in "Semi-Weathering Grey/Green" or approved equal to match existing. All colors must be submitted for approval by owner and Architect.
 3. Install new ice and water membrane under areas of new Slate roofing including but not limited to; all roof eaves, hips, valleys and all base flashing conditions.
 4. Install new 30# felt, lapped 50%, to achieve double thickness, over the entire scope area including at the exposed roof deck and over the ice and water shield.
 5. Install new copper flashing at areas of new Slate roofing including but not limited to; valley flashing, ridge caps and step flashing.
 6. Install new copper gutter liner with fully soldered, flat seam copper flashing with fully soldered seams, ice and water shield, copper pad style snow guards and brass heavy duty snow guards at roofing areas B through N eaves.

1.03 - SUBMITTALS

- A. Submit complete shop drawings including but not limited to slate roof plan, edge details, ridge details, hip details, valley details, rake details in accordance with the provisions of SECTION 01300 - SUBMITTALS in GENERAL REQUIREMENTS.
- B. Submit the following samples in accordance with the provisions of SECTION 01300 - SUBMITTALS IN GENERAL REQUIREMENTS.
1. All fasteners.

2. Manufacturer's literature on all materials.
 3. 12" x 12" sample of ice and water membrane.
 4. Five (5) pieces of slate representing entire range of color, size and finish.
- C. Do not commence fabrication of any Work or begin installation until approval has been obtained from the Architect.

1.04 – SEQUENCING AND PROTECTION

- A. All materials shall be ordered in advance so as to meet the requirements of the Construction Schedule.
- B. The building interior shall be protected from inclement weather at all times. Damage to the building interior during roof replacement shall be repaired at no additional cost and to the complete satisfaction of the Owner.
- C. Before the Work is begun, roof areas shall be carefully inspected and checked for all conditions affecting roofing applications and performance. Roofing Work shall not proceed until defects have been corrected (see unit costs for deck replacement). Commencement of Work shall constitute acceptance of the conditions of the surfaces to which the complete roofing system Work is to be applied and all defects in Work resulting from such accepted surfaces shall be corrected by the trade without additional expense to the Owner.
- D. Temporary waterstops shall be installed at the end of each day's Work, and shall be removed before proceeding with next day's Work. Waterstops shall be compatible with all materials and shall not emit dangerous or incompatible fumes.
- E. Remove all existing slate roofing, existing caulking, all copper, counter flashing, and all items incidental thereto and make all conditions satisfactory for application of the new roofing system Work under this Contract.
- F. Any damaged or deteriorated areas of the roof deck shall be reported to the Architect immediately. Repair locations (if any) shall be determined by the Architect in the field after removal of the roofing, and repaired on a unit cost basis. Roof deck is 3" thick tongue and groove wood planking.

- G. All material shall be removed from roof by way of chutes or lowered down to dumpsters. Absolutely no material shall be thrown or dropped or in any other way released from the roof.
- H. Dispose of all material in dumpsters which shall be trucked away every day. Location of dumpsters shall be as directed by the Owner.
- I. Remove no more roofing and flashing than can be replaced in its entirety by the new insulation, roofing and flashing systems in the same day's Work, including all related Work for this area, to maintain a watertight roof surface. Under no circumstances shall the Contractor subject the interior of the facility to water damage by failing to provide adequate protections in a weather emergency.
- J. Clean up all debris daily. Do not stockpile roof debris overnight.
- K. Contractor shall carefully sequence and coordinate the Work so as to promote completion of the project on schedule. Work closely with all Subcontractors to ensure timely and successful completion.
- L. Safety is the sole responsibility of the Contractor on the job site. The Architect does not have any control over the job site.

1.05 – WARRANTY

- A. Slate installer shall warranty the installation of all slate, felt, copper flashing and accessories for Workmanship and against leaks for a period of (2) years.
- B.

1.06 CODE REQUIREMENTS

- A. The applicator shall submit evidence that the proposed roof system meets the requirements of the local building code and has been tested and approved or listed by the following test organizations. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this Specification.

PART 2 - PRODUCTS

2.01 - ROOFING MATERIALS

A. SLATE

Slate products listed below are by The New England Slate Company. Products from other manufacturers may be used, provided their characteristics meet or exceed the listed requirements. All materials are to be provided from one manufacturer.

1. Broken corners on the exposed ends of new slates are not permitted. Broken corners on the unexposed ends may be considered cause for rejection when either the base or leg of the right triangular piece broken off is greater than 1 1/2 inch.
2. The curvature of shingles shall not exceed 1/8 in. in 12 in. Curved slate shall be sheared and punched to permit it to be laid with the convex side up.
3. "Knots" and "knurls" are rounded defects which affect the smoothness of split. They are not acceptable on any portion of the slate. Slates with a protuberance of more than 1/16 inch beyond the split surface shall be cause for rejection.
4. Slate shall be free from ribbons.
5. Face dimensions shall not differ from those specified by more than 1/8 inch.
6. Slates shall not have quartz veins.
7. Large iron pyrite within the slate shall be cause for rejection.
8. Slates that are wedge shaped (tapering to less than 3/16" in thickness) are unacceptable.
9. Cross-grained slates are unacceptable.

10. Slates should ring like china when tapped with knuckles.
 11. Slates shall be all new 1/4" minimum thickness, 12" wide by 18" long with 7" reveal, "Semi-Weathering Grey/Green" color and #1 material. Punched two holes, with holes located 1 1/2" from edge and 1/3 down from top edge, counter sunk to receive nail. The exposed edges of the slate (3 sides) shall be honed smooth and at a 90 degree angle to the face of the slate.
 12. To confirm quality control the slate producer shall continuously monitor production to ensure that all slate meet or exceed the standards. Before packaging examine each slate and remove all those from the order that do not meet ASTM Grade S1 and the color requirements.
 13. Slates shall be packaged on wooden skids and crated or banded in such a fashion as to allow them to be loaded and unloaded by a forklift without causing damage to the slates.
 14. Coordinate the schedule of deliveries of slate shingles with the Contractor designated by the Owner. Notify the Contractor at least 48 hours in advance of each delivery of slate to ensure timely unloading of the shipment.
- B. Underlayment shall be 30# asphalt saturated rag felt per ASTM D-226.
- C. Nails shall be large head slater's solid copper nails, #12 gauge 4d (1 1/2") or longer for field and 6d (2") for slates on hips and ridges.
- D. Caulking shall be waterproof elastic slater's cement, color to match slate, submit Manufacturer's data.
- E. TEST REQUIREMENTS
1. All slate shall be classified as S1 slate, meeting all the requirements of ASTM 406.

2. The slate producer shall cooperate with the Owner to provide samples for testing for each truckload of slate. Provide six (6) samples from a contiguous quarry area before loading. Deliver samples to an Owner-approved independent testing laboratory. Tests include absorption, modulus of rupture, and weathering.

F. ICE AND WATER MEMBRANE

1. Products listed below are by Grace Ice & Water Shield by W.R. Grace & Co. 617-876-1400. Products from other manufacturers may be used, provided their characteristics meet or exceed the listed requirements. All materials are to be provided from one manufacturer.

GRACE ICE & WATER SHIELD PROPERTIES		
Property	Value	Test Method
Color		
Thickness	1.02 mm (40 mils)	ASTM D 3767 Method A
Tensile Strength-psi	1720 kN/m ² (250)	ASTM D 412
Elongation--Ultimate Failure of Rubberized Asphalt (%)	250	ASTM D 412 (Die C Modified)
Low Temperature Flexibility	Unaffected at -32°C (-25°F)	ASTM D 1970
Adhesion to Plywood (lb/in. width)	528 N/m (3.0)	ASTM D 903
Permeance (Perms)	2.9 ng/m ² sPa (0.05 (Max))	ASTM D 96
Material Weight-Installed (lbs/100 ft ²)	1.45 kg/m ² 30 (Max)	ASTM D 461

PART 3 – EXECUTION

3.01 ICE & WATER SHIELD

- A. Apply Grace Ice & Water Shield only in fair weather at air temperatures of 5°C (40° F) or higher.
- B. Grace Ice & Water Shield membrane must not be left permanently exposed to sunlight. It must be covered by shingles or other roofing materials. It must never be adhered directly to old roof coverings. Grace Ice & Water Shield may be left exposed for up to thirty (30) days when applied to a structural roof deck.
- C. Clean substrate, remove all loose material and any fasteners that may protrude from the roof deck.
- D. Remove release paper and apply new Ice & Water Shield to the wood/substrate, as per Manufacturer's recommendations.
- E. Begin installation at the bottom of all surfaces and “shingle” upward.
- F. At valleys, hips, ridges and other locations shown, refer to drawings for additional information. At roof edge, apply two (3) layers for a 9'-0” width and stagger the vertical joints.

3.02 ROOFING FELT

- A. Install 30# felt and nail at 3" o.c., lap all sheets 50% to achieve double thickness.
- B. Install felt in horizontal layers on all surfaces.
- C. Lay joints towards the eaves minimum 2" and secure laps and ends to properly hold the felt in place. Use these standards until slate has been laid. Insure all felt is unbroken, tight and whole.
- D. Lap felt at hips and ridges minimum 50% to form a double thickness and lap 2" minimum over the metal lining of any valleys or built in gutters.

3.03 SLATE INSTALLATION

- A. Nails of the combing slate shall pass through the joints of the slates below. Stack and store slates on site vertically in tiers. Store in dry and secured area as directed by the Owner.
- B. Slate shall be installed in proper and weather-tight manner.
- C. Install slate 1½" at the eaves and from ½" at all gables. Lay slate in a horizontal coursing method with 3" headlap. Break joints of each course with the proceeding course and adjacent courses by 3".
- D. Starter slate requires 1/4" wood cant strip at undereaves and insure proper joining of starter to first course above. Half-slates are not appropriate for starters. Review starter course thickness before installation for aesthetic quality.
- E. Nails shall not be driven to produce strain on slates. Nails shall be driven so that the head is below the surface of the slate. The slate shall be loose when fully nailed. If not executed properly, building movement could draw the nail head through the slate.
- F. Position slates overlapping metal Work so nails do not puncture metal.
- G. Neatly size all slate around projections with consistent alignment to slate lines above.
- H. Insure all nails are properly driven into slate. Do not drive nail too far into slate to harm counter sunk portion or leave nail head too high. Replace promptly all damaged slates from poor nailing procedures.
- I. Cover exposed nail heads with elastic cement. Color to match slate color.
- J. Build in and place all flashing pieces.
- K. Insure no slates are noticeable from the ground that read thick/thin next to one another. Replace all thick/thin conditions.
- L. On completion, all slate must be sound, whole and clean, and the roof left in every respect tight and neat example of Workmanship.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

3.04 HIPS, RIDGES, AND VALLEYS

- A. Lay hip and ridge slates in elastic cement to insure water-tightness. Drill properly to prevent slate from breaking out at hole. Install elastic cement at all joints subject to moisture intrusion. Joints must overlap slates underneath. Cover all exposed nail heads with elastic cement to match slate color.
- B. Ridge slate graining must be consistent to the field slate.
- C. Ridge finish edge should align properly for consistency throughout entire ridge line.
- D. Cut all mitered hip slates carefully to align straight throughout entire hip run.
- E. Lay slate in open valleys adjacent to metal flashing tapering slate from top to bottom in a 1/2" to 8' ratio. Insure nails do not puncture metal flashing to extend minimum 6" under slate each side.

END OF SECTION

DIVISION 07

THERMAL AND MOISTURE PROTECTION

SECTION 075430

PVC SINGLE PLY ROOFING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the PVC Single Ply Roofing work required to complete the work of the contract including all the PVC Single Ply Roofing work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the PVC Single Ply Roofing work with all the other trades for the project. Provide all demolition and disposal work to complete the PVC Single Ply Roofing work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-Contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. PVC Single Ply Roofing work includes, but is not limited to:
 - 1. Remove all existing EPDM roofing and insulation. Remove all existing membrane flashings, wood blocking, metal flashing, sealants and fasteners as well as any other item that would impede the installation of the new roof system.

2. Install a complete fully adhered 80 mil thick PVC roofing membrane system with flashings and other components to comprise a roofing system covered by their 20 year Full System Warranty.
3. The work herein shall include the removal and lawful disposal of all existing roofing and related items required for the roofing work as specified hereinafter and as indicated on the Drawings.
4. Material removed from the building shall be disposed of in an appropriate manner and in a legal disposal area.
5. Use of any mechanical equipment for demolition purposes shall be approved in advance.
6. Dumpster locations shall be approved by the owner in advance. Do not throw material from the roof. Contractor shall provide safety screening around each dumpster. Safety is the sole responsibility of the Contractor on the job site.
7. Install all new pressure treated wood nailers and exterior plywood to accommodate the installation of the new roof. Install at all locations shown on the plans and details, and as specified by the Architect.
8. Height and pitch of all nailers shall match the adjacent new insulation.
9. Install new flat and tapered polyisocyanurate insulation system in the configurations shown on the plans. Provide crickets of the same material. Minimum thickness shall be 1-1/2" for the flat insulation and pitch shall be ¼":1'-0" for the tapered insulation. Install over self-adhered vapor barrier
10. Install all new 80 mil polyester reinforced manufacturer designed "PVC Engineered" fully adhered roof membrane system on roof area A. This membrane is to be fully adhered to the cover board, which is mechanically fastened to the wood tongue and groove roof deck to meet FM-I 90 uplift requirements.
11. Install all perimeter metal flashing edge metal including but not limited to: counter flashing, skirts at mechanical units, accessories, stainless steel hose clamps and pipe clamps of PVC coated metal in a dark gray standard color.
12. Install all PVC roof accessories such as expansion joints, preformed boots and corners to install a complete watertight assembly.
13. Install all sealants and mastics associated with the roof assembly.

1.03 RELATED WORK.

- A. Section 061000, Rough Carpentry
- B. Section 072200, Building Insulation
- C. Section 076200, Sheet Metal Flashing and Trim
- D. Section 079213, Sealants and Caulking

1.04 QUALITY ASSURANCE

- A. This roofing system shall be applied only by a Roofing Contractor authorized by the manufacturer prior to bid.
- B. Upon completion of the installation and the delivery to the manufacturer by the Applicator of a certification that all work has been done in strict accordance with the Contract Specifications and the manufacturer's requirements, an inspection shall be made by a Technical Representative of the manufacturer to review the installed roof system.
- C. There shall be no deviation made from the Project Specification or the approved shop drawings without prior written approval by the Owner, the Architect and Sarnafil.
- D. All work pertaining to the installation of the PVC membrane and flashings shall only be completed by Applicator personnel trained and authorized by the manufacturer in those procedures.
- E. Certain details may exceed those minimum requirements of the manufacturer. All work shown shall be included in the Scope of Work.
- F. Obtain products from a manufacturer producing PVC roof membrane and accessories for a period of at least 15 years, and the manufacturer produces their own materials.
- G. A representative of the roofing manufacturer shall visit each site under construction daily and submit an interim inspection report to the Architect every week.

1.05 SUBMITTALS

Submit to the Owner or Architect the following:

- A. Copies of the material specifications.

- B. Samples of each primary component to be used in the roof system and the manufacturer's current literature for each component.
- C. Written approval by the insulation manufacturer (as applicable) for use and performance of the product in the proposed system.
- D. Sample copy of the warranty.
- E. Sample copy of Applicator's warranty.
- F. Dimensioned shop drawings which shall include:
 - 1. Outline of roof with roof size and elevations shown.
 - 2. Profile details of flashing methods for penetrations.
 - 3. Technical acceptance from the manufacturer.
 - 4. Sheet and half sheet layout.
 - 5. FM – I90 requirements.
- G. Certifications by manufacturers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and industry standards or practices.
- H. Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the Specification.
- I. Material Safety Data Sheets (MSDS).
- J. Do not commence fabrication of any work or begin installation until approval has been obtained from the Engineer.
- K. Submit the following samples in accordance with the provisions of SECTION 01300 - SUBMITTALS in GENERAL REQUIREMENTS.
 - 1. 2 of each fastener for attachment of each condition.
 - 2. 2'-0" LF of all tapes and sealants used to seal seams and edges.
 - 3. 12" x 12" insulation samples.
 - 4. PVC roofing membrane, membrane flashing, (plain and felt backed), termination bars, PVC coated and other metal flashings, hardware, disks, and incidental items.

5. 12 inch section of all metal flashing types, counterflashings, and parapet caps in their final material and design configuration.

1.06 CODE REQUIREMENTS

- A. The applicator shall submit evidence that the proposed roof system meets the requirements of the local building code and has been tested and approved or listed by the following test organizations. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this Specification.
- B. The roof system shall be installed to withstand these following wind uplift pressures.
 1. Zone 1 (Field) – 26.4 psf
 2. Zone 2 (Edge) – 44.3 psf
 3. Zone 3 (Corners) – 66.6 psf

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All products delivered to the job site shall be in the original unopened containers or wrappings bearing all seals and approvals.
- B. Handle all materials to prevent damage. Place all materials on pallets and fully protect from moisture.
- C. Membrane rolls shall be stored lying down on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions which may affect the ease of membrane weldability.
- D. All adhesives shall be stored at temperatures between 40° F (5° C) and 80° F (27° C).
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/supplier.
- F. All materials which are determined to be damaged by the Architect or Sarnafil are to be removed from the job site and replaced at no cost to the Owner.

1.08 JOB CONDITIONS

- A. PVC materials may be installed under certain adverse weather conditions but only after consultation with manufacturer, as installation time and system integrity may be affected.
- B. Only as much of the new roofing as can be made weathertight each day, including all flashing and detail work, shall be installed. All seams shall be cleaned and heat -welded before leaving the job site that day.
- C. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.
- D. All surfaces to receive new insulation, membrane or flashings shall be dry. The Applicator shall provide the necessary equipment to dry the surface of moisture prior to proceeding with installation.
- E. All new and temporary construction, including equipment and accessories, shall be secured in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.
- F. Uninterrupted waterstops shall be installed at the end of each day's work and shall be completely removed before proceeding with the next day's work. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with the finished roof as the installation progresses. Contaminated membrane shall be replaced at no cost to the Owner.
- G. The Applicator is cautioned that certain PVC membranes are incompatible with asphalt, coal tar, heavy oils, roofing cements, creosote and some preservative materials. Such materials shall not remain in contact with Sarnafil membranes. The Applicator shall consult the manufacturer regarding compatibility, precautions and recommendations.
- H. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, the Applicator shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. A substantial protection layer consisting of plywood over Sarnafelt or plywood over insulation board shall be provided for all new and existing roof areas which receive rooftop traffic during construction.
- I. Prior to and during application, all dirt, debris and dust shall be removed from surfaces by vacuuming, sweeping, blowing with compressed air and/or similar methods.

- J. The Applicator shall follow all safety regulations as required by OSHA and any other applicable authority having jurisdiction. The Contractor is solely responsible for safety on the job site.
- K. All roofing, insulation, flashings and metal work removed during construction shall be immediately taken off site to a legal dumping area authorized to receive such materials.
- L. All new roofing waste material (i.e., scrap roof membrane, empty cans of adhesive) shall be immediately removed from the site by the Applicator and properly transported to a legal dumping area authorized to receive such material.
- M. The Applicator shall take precautions that storage and/or application of materials and/or equipment does not overload the roof deck or building structure.
- N. Flammable adhesives shall not be stored and not be used in the vicinity of open flames, sparks and excessive heat.
- O. All rooftop contamination that is anticipated or that is occurring shall be reported to the manufacturer to determine the corrective steps to be taken.
- P. The Applicator shall verify that all roof drain lines are functioning correctly (disconnected, clogged or blocked) before starting work. Applicator shall report any such blockages in writing to the Architect for corrective action prior to installation of the PVC roof system.
- Q. Applicator shall immediately stop work if any unusual or concealed condition is discovered and shall immediately notify Owner of such condition in writing for correction at the Owner's expense.
- R. Site cleanup, including both interior and exterior building areas which have been affected by construction, shall be completed to the Owner's satisfaction.
- S. All landscaped areas damaged by construction activities shall be repaired at no cost to the Owner.
- T. The fully adhered membrane shall not be installed under the following conditions without consulting the manufacturer's Technical for precautionary steps:
 - 1. The roof assembly permits interior air to pressurize the membrane underside.
 - 2. The wall/deck intersection permits air entry into the wall flashing area.
- U. Precautions shall be taken when using adhesives at or near rooftop vents or air intakes. Adhesive odors could enter the building. Coordinate the operation of

vents and air intakes in such a manner as to avoid the intake of adhesive odor while ventilating the building. Keep lids on unused cans at all times. Conduct a pre-construction meeting with building maintenance personnel to identify intake locations.

- V. Protective wear shall be worn when using solvents or adhesives or as required by job conditions.
- W. At this time no hazardous materials are known to be on site. However, if hazardous materials are found they are to be brought to the attention of the Owner immediately.

1.09 BIDDING REQUIREMENTS

A. Pre-Bid Meeting:

A pre-bid meeting was held with the Architect to discuss all aspects of the project. The Applicator's field representative or roofing foreman for the work shall be in attendance.

B. Site Visit:

Bidders shall visit the site and carefully examine all the areas in the scope to view conditions which may affect proper execution of the work. All dimensions and quantities shall be determined or verified by the Contractor. No claims for extra costs will be allowed because of lack of full knowledge of the existing conditions unless agreed to in advance with the Owner or Architect.

1.10 WARRANTIES

A. 20 Year Full-System Warranty

Upon successful completion of the work and prior to receipt of final payment, the Manufacturer's 20-Year Full System Warranty shall be issued. Roofing membranes, flashing, insulation (supplied by membrane manufacturer), and edge metal shall be included in the warranty. Warranty shall be non-prorated, no dollar limit, with a wind speed up to 105 mph. Warranty shall run concurrently with Contractor warranty.

B. Applicator/Roofing Contractor Warranty

The Applicator shall supply the Owner with a separate 2-Year workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with the Contract Documents, the Applicator shall repair that defect at no cost to the Owner. The Applicator's warranty obligation shall run directly to the Owner,

and a copy shall be sent to the manufacturer.

C. Owner Responsibility

Owner shall notify both the manufacturer and the Applicator of any leaks as they occur during the time period when both warranties are in effect.

D. Applicator shall post signs provided by the manufacturer on the doors leading to the roof that indicate that the roof is new and under warranty, explaining procedures to follow.

PART 2 – PRODUCTS

2.01 GENERAL

A. The components of the PVC Adhered roof system are to be products of an approved PVC manufacturer as indicated on the Detail Drawings and specified in the Contract Documents and as approved by the Owner and the Architect.

B. Products listed below are by Sarnafil. Products from other manufacturers listed below may be used, provided their characteristics meet or exceed the listed requirements. All materials are to be provided from one manufacturer.

- a. Duro-Last, Inc.; Duro-Tuff Membrane; www.duro-last.com
- b. Johns Manville; JM PVC
- c. Carlisle; Sure-Flex

2.02 MEMBRANE

A. Sarnafil® G410 fiberglass or polyester reinforced membrane with a lacquer coating.

B. Membrane shall conform to ASTM D4434-96 (or latest revision), "Standard for Polyvinyl Chloride Sheet Roofing". Classification: Type II, Grade I or Type III.

1. Sarnafil 6G410-20, 80 mil (2.03 mm), thermoplastic membrane with fiberglass reinforcement.

C. Color of Membrane

1. EnergySmart (white), initial reflectivity of 0.83, initial emissivity 0.92, solar reflective index (SRI) of >104.

D. Typical Physical Properties

<u>Parameters</u>	<u>ASTM Test Method</u>	<u>Minimum ASTM Requirement</u>	<u>Sarnafil Typical Physical Properties</u>
Reinforcing Material	-		Fiberglass Or Polyester
Overall Thickness, min., inches (mm)	D638	0.060(1.52)	0.080 (2.03)
Tensile Strength, min., psi (MPa)	D638	1500 (10.4)	1625
Elongation at Break, min. (machine x tranverse)	D638	250% / 230%	250% / 220%
Seam strength*, min. (% of tensile strength)	D638	75	75
Retention of Properties After Heat Aging	D3045	-	-
Tensile Strength, min., (% of original)	D638	90	90
Elongation, min., (% of original)	D638	90	90
Tearing Resistance, min., lbf (N)	D1004	10 (45.0)	22
Low Temperature Bend, -40° F (-40° C)	D2136	Pass	Pass
Accelerated Weathering Test (Xenon Arc)	D2565	5,000 Hours	10,000 Hours
Cracking (7x magnification)	-	None	None
Discoloration (by observation)	-	Negligible	Negligible
Crazing (7 x magnification)	-	None	None
Linear Dimensional Change	D1204	0.10 %	-0.01%
Weight Change After Immersion in Water	D570	± 3.0%	1.7%
Static Puncture Resistance, 33 lbf (15 kg)	D5602	Pass	Pass
Dynamic Puncture Resistance, 7.3 ft-lbf (10 J)	D5635	Pass	Pass

*Failure occurs through membrane rupture not seam failure.

2.03 FLASHING MATERIALS

A. Wall/Curb Flashing

1. Sarnafil G410 Membrane
A fiberglass or polyester reinforced membrane adhered to approved substrate using Sarnacol adhesive.
2. Sarnafil G459 Membrane
An asphalt-resistant, fiberglass or polyester reinforced membrane adhered to approved substrate using Sarnacol adhesive. Consult Product Data Sheet for adhesive rates and additional information.
3. Sarnaclad
A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 25 gauge, G90 galvanized metal sheet with a 20 mil (1 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0m). Consult Product Data Sheet for additional information.

B. Perimeter Edge Flashing

1. Sarnaclad
A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 25 gauge, G90 galvanized metal sheet with a 20 mil (1 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0m). Consult Product Data Sheet for additional information.

C. Miscellaneous Flashing

1. Sarnaflash
A prefabricated expansion joint cover made from Sarnafil membrane. Sarnaflash is designed for securement to wall or horizontal surfaces to span and accommodate the movement of new and existing expansion gaps from 1 inch to 4½ inches (25 mm to 114 mm) across. Available in 40 foot (12 m) rolls.

2. Sarnastack
A prefabricated vent pipe flashing made from 0.048 inch (48 mil/1.2 mm) thick Sarnafil G410 membrane. Available in five different sizes.
3. Sarnacircle-"G"
Circular 0.048 inch (48 mil/1.2 mm) thick G410 membrane patch welded over T-joints formed by overlapping thick membranes.
4. Sarnafiller
A urethane sealant used for pitch pocket topping. Sarnafiller is a two component sealant. Sarnafiller cures with excellent elasticity and adhesion to various surfaces.
5. Sarnacorner
Prefabricated outside and inside flashing corners made of 0.060 inch (60 mil/1.5 mm) thick membrane that are heat-welded to membrane or Sarnaclad base flashings. Sarnacorner is available in 2 outside sizes (5 inch and 8½ inch diameter/127 mm and 215 mm) and 1 inside size.
6. Multi-Purpose Sealant
A proprietary sealant used at flashing terminations.
7. Sarnacol 2170 Adhesive
A solvent-based reactivating-type adhesive used to attach membrane to flashing substrate.
8. Sarnafelt
A non-woven polyester or polypropylene mat cushion layer that is necessary behind G410 or G459 Flashing Membrane when the flashing substrates are rough-surfaced or incompatible with the flashing membrane.

2.04 INSULATION/OVERLAYMENT/RECOVER BOARD

- A. Insulation
A rigid polyisocyanurate foam insulation board with black mat facers. Available in 4 ft x 4 ft (1.2 m x 1.2 m) or 4 ft x 8 ft (1.2 m x 2.4 m) sizes and various thicknesses. Consult Product Data Sheet for additional information.
- B. Coverboard
 1. Glass mat faced high density polyisocyanurate board.
 - a. Thickness – 1/2"
 - b. Compressive Strength – minimum 100 psi
 - c. Insulation Value – minimum R2.5
 - d. Manufacturers:
 - 1) Sika-Sarnafil; SarnaTherm Roof Board-H

2) Carlisle SynTec Systems; SecureShield HD

2.05 ATTACHMENT COMPONENTS

A. Membrane Adhesive

1. Sarnacol 2170 Adhesive

A solvent-based reactivating-type adhesive used to attach the membrane to the substrate, either horizontally or vertically. Consult Product Data Sheets for additional information. Application rates are as follows:

APPLICATION RATES FOR BARE BACK MEMBRANE					
	Adhesive Rates - Gallons/100 Ft ² (<i>Liters/Meter²</i>)				Approximate Sq. Ft./Pail (<i>meter²</i>)
	Substrate		Membrane	Total	
Isocyanurate facer	1.25 (<i>0.51</i>)	+	0.50 (<i>0.20</i>)	= 1.75 (<i>0.71</i>)	285 (<i>26.48</i>)
Smooth plywood	1.00 (<i>0.41</i>)	+	0.50 (<i>0.20</i>)	= 1.50 (<i>0.61</i>)	333 (<i>30.94</i>)
Metal	0.75 (<i>0.31</i>)	+	0.50 (<i>0.20</i>)	= 1.25 (<i>0.51</i>)	400 (<i>37.16</i>)
Concrete wall	1.25 (<i>0.51</i>)	+	0.50 (<i>0.20</i>)	= 1.75 (<i>0.71</i>)	285 (<i>26.48</i>)
GP Dens-Deck [®]	1.25 (<i>0.51</i>)	+	0.50 (<i>0.20</i>)	= 1.75 (<i>0.71</i>)	285 (<i>26.48</i>)
GP Dens-Deck Prime [®]	1.00 (<i>0.41</i>)	+	0.50 (<i>0.20</i>)	= 1.50 (<i>0.61</i>)	333 (<i>30.94</i>)

APPLICATION RATES FOR LOOSE SARNAFELT FLASHINGS						
	Adhesive Rates - Gallons/100 Ft ² (<i>Liters/Meter²</i>)					Approximate <u>Sq. Ft./Pail</u> <i>(meter²)</i>
	Substrate (1 st coat)	Substrate (2 nd coat)		Membran e	Total	
Smooth plywood	1.00 <i>(0.41)</i>	+ 1.00 <i>(0.41)</i>	+ 0.50 <i>(0.20)</i>	=	2.50 <i>(1.02)</i>	167 <i>(15.51)</i>
Concrete wall	1.00 <i>(0.41)</i>	+ 1.00 <i>(0.41)</i>	+ 0.50 <i>(0.20)</i>	=	2.50 <i>(1.02)</i>	167 <i>(15.51)</i>
Masonry wall	1.00 <i>(0.41)</i>	+ 1.00 <i>(0.41)</i>	+ 0.50 <i>(0.20)</i>	=	2.50 <i>(1.02)</i>	167 <i>(15.51)</i>
Granular bitumen	1.00 <i>(0.41)</i>	+ 1.00 <i>(0.41)</i>	+ 0.50 <i>(0.20)</i>	=	2.50 <i>(1.02)</i>	167 <i>(15.51)</i>
Smooth aged bitumen	1.00 <i>(0.41)</i>	+ 1.00 <i>(0.41)</i>	+ 0.50 <i>(0.20)</i>	=	2.50 <i>(1.02)</i>	167 <i>(15.51)</i>

Notes:

- a) Due to an increase in viscosity when outdoor temperatures during installation are below 40° F (5° C), add ½ gal/100 ft² (0.2 l/m²) to rate for estimating purposes. Do not install when air temperature is within 5° F of dew point. Solvent evaporation time increases significantly when temperatures drop. Ensure first layer of Sarnacol 2170 is fully dry before second layer is applied to the back of the membrane for proper reactivation.
 - b) Use a water-filled, foam-covered lawn roller to consistently and evenly press the membrane into the adhesive layer.
- B. Sarnaplate
 Used with various Sarnafasteners to attach insulation boards to roof deck. Sarnaplate is a 3 inch (75 mm) square or round, 26 gauge stamping of SAE 1010 steel with an AZ 55 Galvalume coating.
- C. Sarnastop
 An extruded aluminum, low profile bar used with certain Sarnafasteners to attach to the roof deck or to walls/curbs at terminations, penetrations and at incline

changes of the substrate. Sarnastop is a 1 inch (25 mm) wide, flat aluminum bar 1/8 inch (3 mm) thick that has predrilled holes every 6 inches (152 mm) on center.

D. Sarnabar

An FM-approved, heavy-duty, 14 gauge, galvanized or stainless, roll-formed steel bar used to attach membrane to roof decks. The formed steel is pre-punched with holes every 1 inch (25 mm) on center to allow various Sarnafastener spacing options.

E. Sarnacord

A 5/32 inch (4 mm) diameter, red-colored, flexible thermoplastic extrusion that is welded to the top surface of the Sarnafil membrane and against the side of the Sarnabar, used to hold the membrane in position. Consult Sarnafil Product Data Sheet for additional information.

2.06 VAPOR RETARDER

A. Self-Adhered

1. 32 mil thick self-adhered polyethylene vapor retarder/air retarder and compatible with primer.

2.07 MISCELLANEOUS ACCESSORIES

A. Aluminum Tape

A 2 inch (50 mm) wide pressure-sensitive aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as a bond-breaker under the coverstrip at Sarnaclad joints.

B. Sealing Tape Strip

Compressible foam with pressure-sensitive adhesive on one side. Used with metal flashings as a preventive measure against air and wind blown moisture entry.

C. Multi-Purpose Tape

A high performance sealant tape with used with metal flashings as a preventive measure against air and wind blown moisture entry.

D. Sarnamatic 641mc

220 volt, self-propelled, hot-air welding machine used to seal long lengths of Sarnafil membrane seams.

E. Perimat Welder

120 volt, self-propelled, hot-air welding machine used to seal long-lengths of Sarnafil membrane seams along perimeter details.

- F. Sarnasolv
A high quality solvent cleaner used for the general cleaning of residual asphalt, scuff marks, etc., from the membrane surface. Sarnasolv is also used daily to clean seam areas prior to hot-air welding in tear off or dirty conditions or if the membrane is not welded the same day it is unrolled. Consult Product Data Sheet for additional information.

2.08 SEALANTS AND PITCH POCKET FILLERS

- A. Sarnafil Multi-Purpose Sealant (for termination details).
- B. Sarnafiller (two-part urethane filler for pitch pocket toppings).
- C. Depending on substrates, the following sealants are options for temporary overnight tie-ins:
1. Type III hot asphalt conforming to ASTM D312 (latest revision).
 2. Sarnafiller.
 3. Multiple layers of roofing cement and felt.
 4. Spray-applied, water-resistant urethane foam.
 5. Mechanical attachment with rigid bars and compressed sealant.

2.09 MISCELLANEOUS FASTENERS AND ANCHORS

- A. All fasteners, anchors, nails, straps, bars, etc. shall be post-galvanized steel, aluminum or stainless steel. Mixing metal types and methods of contact shall be assembled in such a manner as to avoid galvanic corrosion. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins. All concrete fasteners and anchors shall have a minimum embedment of 1¼ inch (32 mm) and shall be approved for such use by the fastener manufacturer. All miscellaneous wood fasteners and anchors used for flashings shall have a minimum embedment of 1 inch (25 mm) and shall be approved for such use by the fastener manufacturer.

2.10 RELATED MATERIALS

1. Wood Nailers
Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on Project Drawings. Thickness of nailers must match the insulation thickness to achieve a smooth transition. Wood nailers shall be treated for fire and rot resistance (wolmanized or osmose treated) and be #2 quality or better lumber. Creosote or

asphalt-treated wood is not acceptable. Wood nailers shall conform to Factory Mutual Loss Prevention Data Sheet 1-49. All wood shall have a maximum moisture content of 19% by weight on a dry-weight basis.

2. Plywood
When bonding directly to plywood, a minimum ½ inch (12 mm) CDX (C side out), smooth-surfaced exterior grade plywood with exterior grade glue shall be used. Rough-surfaced plywood or high fastener heads will require the use of Sarnafelt behind the flashing membrane. Plywood shall have a maximum moisture content of 19% by weight on a dry weight basis.

PART 3 – EXECUTION

3.01 PRE-CONSTRUCTION CONFERENCE

- A. The Applicator, Architect/Designer and Manufacturer(s) shall attend a pre-construction conference.
- B. The meeting shall discuss all aspects of the project including but not limited to:
 1. Applicator will discuss Safety with the Owner.
 2. Set up, access, crane and dumpster locations.
 3. Construction schedule.
 4. Contract conditions.
 5. Coordination of the work.

3.02 SUBSTRATE CONDITION

- A. Applicator shall be responsible for acceptance or provision of proper substrate to receive new roofing materials.
- B. Applicator shall verify that the work done under related Sections meets the following conditions:
 1. Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.
 2. All surfaces are smooth and free of dirt, debris and incompatible materials.
 3. All roof surfaces shall be free of water, ice and snow.

3.03 SUBSTRATE PREPARATION

A. The roof deck and existing roof construction must be structurally sound to provide support for the new roof system. The Applicator shall load materials on the rooftop in such a manner to eliminate risk of deck overload due to concentrated weight. The Architect shall ensure that the roof deck is secured to the structural framing according to local building code and in such a manner as to resist all anticipated wind loads in that location.

B. Reroofing with Removal of Existing Roofing

All existing roofing, base flashing, deteriorated wood blocking or deteriorated metal flashings shall be removed. Remove only that amount of roofing and flashing which can be made weathertight with new materials during a one-day period or before the onset of inclement weather.

1. Wood Deck:

All deteriorated decking shall be brought to the attention of the Architect to determine method of treatment or replacement. Refer to Unit Price Schedule for quantities.

3.04 SUBSTRATE INSPECTION

A. A dry, clean and smooth substrate shall be prepared to receive the Sarnafast mechanically-attached roof system.

B. The Applicator shall inspect the substrate for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect the quality of work.

C. The substrate shall be clean, smooth, dry, free of flaws, sharp edges, loose and foreign material, oil and grease. Roofing shall not start until all defects have been corrected.

D. All roof surfaces shall be free of water, ice and snow.

E. Sarnafil shall be applied over compatible and accepted substrates only.

3.05 REMOVAL OF EXISTING ROOFING AND MATERIALS

A. Remove all existing roofing, existing caulking, counterflashing, and all items incidental thereto and make all conditions satisfactory for application of the new roofing system work under this Contract.

B. All material shall be removed from roof by way of a crane and lowered down to dumpsters. Absolutely no material shall be thrown or dropped or in any other

way released from the roof. See Section 01050 - Coordination for further requirements.

- C. Dispose of all material in dumpsters which shall be trucked away when full. Location of dumpsters shall be as directed by the Owner.
- D. Remove no more roofing and flashing than can be replaced in its entirety by the new insulation, roofing and flashing systems in the same day's work, including all related work for this area, to maintain a watertight roof surface. Under no circumstances shall the Contractor subject the interior of the facility to water damage by failing to provide adequate protections in a weather emergency.
- E. Clean up all debris daily.
- F. Secure all materials on the roofs daily against high winds.

3.06 WOOD NAILER INSTALLATION

- A. Install continuous wood nailers at the perimeter of the entire roof and around roof projections and penetrations as shown on the Detail Drawings.
- B. Nailers shall be anchored to resist a minimum force of 300 pounds per lineal foot (4,500 Newtons/lineal meter) in any direction. Individual nailer lengths shall not be less than 3 feet (0.9 meter) long. Nailer fastener spacing shall be at 12 inches (0.3 m) on center or 16 inches min. (0.4 m) on center only if necessary to miss the structural framing. Fasteners shall be staggered 1/3 the nailer width and installed within 6 inches (0.15 m) of each end. Two fasteners shall be installed at ends of nailer lengths. Nailer attachment shall meet this requirement and that of the current Factory Mutual Loss Prevention Data Sheet 1-49.
- C. Thickness shall be as required to match the roof system.
- D. All existing nailer woodwork shall be removed and replaced.
- E. Nailers should gap 1/8" at ends and corners. The thickness of the nailer shall be provided such that the top of the nailer is flush with the adjacent insulation thickness or the surface to which the roofing membrane is to be applied. Shim with pressure treated stock to achieve correct height.
- F. Nailers can be single or multiple pieces of wood including dimensional lumber and plywood. When using multiple pieces stagger all joints, vertically. Heights shall match that of the adjacent insulation. Where insulation tapers, scribe wood blocking to match taper.

3.07 VAPOR RETARDER, INSULATION AND COVERBOARD INSTALLATION

General Criteria:

- A. On a clean gypsum board surface, apply primer in accordance with manufacturer's requirements. Install self-adhering vapor retarder continuously and adhered to all penetrations forming a complete membrane over the entire roof deck.
- B. Insulation boards and coverboards shall be installed in parallel courses with end joints staggered and adjacent boards butted together. Joints of alternate layers shall also be staggered. Joints shall be offset generally at on half of the board width, but at a minimum of 12".
- C. Insulation and coverboard joints shall be ¼ inch or less in width. Joints wider than 1/4 inch shall be filled with the same insulation.
- D. Where field trimmed, insulation and coverboards shall be fitted tightly around roof protrusions and terminations.
- E. Insulation and coverboard shall be installed according to insulation and coverboard manufacturer's instructions.\
- F. Install tapered insulation in accordance with insulation manufacturer's shop drawings.
- G. Do not install more insulation board than can be covered with Sarnafil membrane by the end of the day or the onset of inclement weather.
- H. Mechanical Attachment:
 - 1. Insulation and coverboard shall be mechanically fastened to the deck with approved fasteners and plates at a rate of one every 6 square feet, but no less than 5 per 4' x 4' board, or according to Factory Mutual's recommendations, whichever is greater. The quantity and locations of the fasteners and plates shall also cause the insulation boards to rest evenly on the roof deck/substrate so that there are no significant and avoidable air spaces between the boards and the substrate. Each insulation board shall be installed tightly against the adjacent boards on all sides.
 - 2. Fasteners are to be installed consistently in accordance with fastener manufacturer's recommendations. Fasteners are to have minimum penetration into structural deck recommended by the fastener manufacturer and Sarnafil.

3. Use fastener tools with a depth locator and torque-limiting attachment as recommended or supplied by fastener manufacturer to ensure proper installation.

3.08 INSTALLATION OF SARNAFIL MEMBRANE

The surface of the insulation or substrate shall be inspected prior to installation of the Sarnafil roof membrane. The substrate shall be clean, dry, free from debris and smooth, with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.

A. Sarnacol 2170 Adhesive:

1. Over the properly installed and prepared substrate surface, Sarnacol 2170 adhesive shall be applied using solvent-resistant $\frac{3}{4}$ inch (19 mm) nap paint rollers. The adhesive shall be applied to the substrate at a rate according to Sarnafil requirements. The adhesive shall be applied in smooth, even coating with no gaps, globs, puddles or similar inconsistencies. Only an area which can be completely covered in the same day's operations shall be coated with adhesive. The first layer of adhesive shall be allowed to dry completely prior to installing the membrane.
2. When the adhesive on the substrate is dry, the Sarnafil roof membrane is unrolled. Adjacent sheets shall be overlapped 3 inches (75 mm). Once in place, one-half of the sheet's length shall be turned back and the underside shall be coated with Sarnacol 2170 adhesive at a rate of $\frac{1}{2}$ gallon per 100 ft² (0.2 liters/m²). When the membrane adhesive has dried slightly to produce strings when touched with a dry finger, the coated membrane shall be rolled onto the previously-coated substrate being careful to avoid wrinkles. **Do not allow adhesive on the underside of the Sarnafil membrane to dry completely.** The amount of membrane that can be coated with adhesive before rolling into substrate will be determined by ambient temperature, humidity and crew. The bonded sheet shall be pressed firmly in place with a water-filled, foam-covered lawn roller by frequent rolling in two directions. The remaining un-bonded half of the sheet shall be folded back and the procedure repeated.

Notes:

- a) The Applicator shall count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.
- b) No adhesive shall be applied in seam areas. All membrane shall be applied in the same manner.

3.09 HOT-AIR WELDING OF SEAM OVERLAPS

A. General

1. All seams shall be hot-air welded. Seam overlaps should be 3 inches (75 mm) wide when automatic machine welding and 4 inches (100 mm) wide when hand-welding except for certain details.
2. Welding equipment shall be provided by or approved by Sarnafil. All mechanics intending to use the equipment shall have successfully completed a training course provided by a Sarnafil Technical Representative prior to welding.
3. All membrane to be welded shall be clean and dry.

B. Hand-Welding

Hand-welded seams shall be completed in two stages. Hot-air welding equipment shall be allowed to warm up for at least one minute prior to welding.

1. The back edge of the seam shall be welded with a narrow but continuous weld to prevent loss of hot air during the final welding.
2. The nozzle shall be inserted into the seam at a 45-degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to “flow,” the hand roller is positioned perpendicular to the nozzle and pressed lightly. For straight seams, the 1-1/2 inch (40 mm) wide nozzle recommended for use. For corners and compound connections, the 3/4 inch (20 mm) wide nozzle shall be used.

C. Machine Welding

1. Machine welded seams are achieved by the use of Sarnafil’s automatic welding equipment. When using this equipment, Sarnafil’s instructions shall be followed and local codes for electric supply, grounding, and overcurrent protection observed. Dedicated circuit house power or a dedicated portable generator is recommended. Not other equipment shall be operated off the generator.
2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles. It is necessary to weld overlapping membranes prior to securing opposing side of membrane to prevent wrinkles with the High Speed Rail System.

D. Quality Control of Welded Seams

1. The Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark gray material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the Applicator to locations as directed by the Architect or Sarnafil's representative. One-inch (25 mm) wide cross-section samples of welded seams shall be taken at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

3.10 MEMBRANE FLASHINGS

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Architect and Sarnafil. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Applicator's expense. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces. Use caution to ensure adhesive fumes are not drawn into the building.

A. Sarnacol Adhesive for Membrane Flashings

1. Over the properly installed and prepared flashing substrate, Sarnacol adhesive shall be applied according to instruction found on the Product Data Sheets. The Sarnacol adhesive shall be applied in smooth, even coatings with no gaps, globs or similar inconsistencies. Only an area which can be completely covered in the same day's operations shall be flashed. The bonded sheet shall be pressed firmly in place with a hand roller.
2. No adhesive shall be applied in seam areas that are to be welded. All panels of membrane shall be applied in the same manner, overlapping the edges of the panels as required by welding techniques.

B. Install Sarnadiscs according to the Detail Drawings with approved Sarnafasteners into the structural deck at the base of parapets, walls and curbs. Sarnarail or Sarnadiscs may be required by Sarnafil at the base of all tapered edge strips and at transitions, peaks, and valleys according to Sarnafil's details.

C. Sarnafil's requirements and recommendations and the specifications shall be followed. All material submittals shall have been accepted by Sarnafil prior to installation.

- D. All flashings shall extend a minimum of 8 inches (0.2 m) above roofing level unless otherwise accepted in writing by the Architect and Sarnafil Technical.
- E. All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the Sarnafil membrane.
- F. All flashing membranes shall be mechanically fastened along the counter-flashed top edge with Sarnastop at 6-8 inches (0.15-0.20 m) on center.
- G. Sarnafil flashings shall be terminated according to Sarnafil recommended details.
- H. All adhered flashings that exceed 30 inches (0.75 m) in height shall receive additional securement. Consult Sarnafil Technical Department for securement methods.
- I. All mechanically-attached flashings that exceed 18 inches (0.46 m) in height shall receive additional securement. Consult Sarnafil Technical Department for securement methods.

3.11 METAL FLASHINGS

- A. Metal details, fabrication practices and installation methods shall conform to the applicable requirements of the following:
 - 1. Factory Mutual Loss Prevention Data Sheet 1-49 (latest issue).
 - 2. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - latest issue.
- B. Metal, other than that provided by Sarnafil, is not covered under the Sarnafil warranty.
- C. Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily.
- D. Metal shall be installed to provide adequate resistance to bending to allow for normal thermal expansion and contraction.
- E. Metal joints shall be watertight.
- F. Metal flashings shall be securely fastened into solid wood blocking. Fasteners shall penetrate the wood nailer a minimum of 1 inch (25 mm).
- G. Airtight and continuous metal hook strips are required behind metal fascias. Hook strips are to be fastened 12 inches (0.3 m) on center into the wood nailer or masonry wall.

- H. Counter flashings shall overlap base flashings at least 4 inches (100 mm).
- I. Hook strips shall extend past wood nailers over wall surfaces by 1-1/2 inch (38 mm) minimums and shall be securely sealed from air entry.

3.12 SARNAFIL METAL BASE FLASHINGS/EDGE METAL

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sarnafil. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.

- A. Sarnaclad metal flashings shall be formed and installed per the Detail Drawings.
 - 1. All metal flashings shall be fastened into solid wood nailers with two rows of post galvanized flat head annular ring nails, 4 inches (100 mm) on center staggered. Fasteners shall penetrate the nailer a minimum of 1 inch (25 mm).
 - 2. Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion and contraction.
- B. Adjacent sheets of Sarnaclad shall be spaced ¼ inch (6 mm) apart. The joint shall be covered with 2 inch (50 mm) wide aluminum tape. A 4 inch minimum (100 mm) wide strip of Sarnafil flashing membrane shall be hot-air welded over the joint.

3.13 RAISING EXISTING CURBS, HATCHES, DUNNAGE

- A. Disconnect the curb below the existing smoke hatch on each of the eight air shaft roof areas.
- B. Raise the curb and re-attach, providing the same or additional attachment, with new blocking or a steel liner to provide a minimum of 4" for the top of the membrane flashing to be above the top of the parapet.
- C. Provide a smooth flat exterior surface on the exterior of the curb for the application of the flashing membrane.

3.14 TEMPORARY CUT-OFF

- A. All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100% watertight seal. Even installing partial

panels of insulation shall make the stagger of the insulation joints. The new membrane shall be carried into the waterstop. The waterstop shall be sealed to the deck and/or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant as described in Section 2.09. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and properly disposed of off site. None of these materials shall be used in the new work.

- B. If inclement weather occurs while a temporary waterstop is in place, the Applicator shall provide the labor necessary to monitor the situation to maintain a watertight condition.
- C. If any water is allowed to enter under the newly-completed roofing, the affected area shall be removed and replaced at the Applicator's expense.

3.15 COMPLETION

- A. Prior to demobilization from the site, the work shall be reviewed by the Architect, a representative from Sarnafil and the Applicator. All defects noted and non-compliances with the Specifications or the recommendations of Sarnafil shall be itemized in a punch list. These items must be corrected immediately by the Applicator to the satisfaction of the Architect and Sarnafil prior to demobilization.
- B. All Warranties referenced in this Specification shall have been submitted and have been accepted at time of contract award.

END OF SECTION

DIVISION 07

THERMAL AND MOISTURE PROTECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Sheet Metal Flashing and Trim work required to complete the work of the contract including all the Sheet Metal Flashing and Trim work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Sheet Metal Flashing and Trim work with all the other trades for the project. Provide all demolition and disposal work to complete the Sheet Metal Flashing and Trim work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Sheet Metal Flashing and Trim work includes, but is not limited to:
 - 1. At all PVC roofs, furnish and install PVC coated edge metal at full perimeter of roof edge.

2. Red copper step flashing.
3. At roof area A, furnish and install copper counter flashing at full perimeter of roof edge, as indicated on the drawings.
4. At all Slate roofs, furnish and install copper step flashing, counter flashing, valley flashing and ridge caps.
5. At all Slate roof eave locations, furnish and install copper gutter liner with all flat seams, fully solder all seams.

1.03 SUBMITTALS

- A. Submit complete shop drawings in accordance with the provisions of SECTION 01 31 00 - SUBMITTALS in GENERAL REQUIREMENTS.
 1. PVC Roof Edge Metal.
 2. Red Copper At All Conditions
- B. Submit the following samples in accordance with the provisions of SECTION 01 31 00 - SUBMITTALS in GENERAL REQUIREMENTS.
 1. 12 inch by 12 inch section of all PVC coated and copper metal material and 12 inch long piece of flashing in each configuration in each location type as a mock-up for approval.
 2. Two of each fastener.
- C. Do not commence fabrication of any work or begin installation until approval has been obtained from the Consultant.

PART 2 – PRODUCTS

2.01 SHEET METAL MATERIALS

- A. New 20 oz. copper at Slate roofs and PVC coated galvanized metal at PVC roofs.
- B. Fasteners for Metal Work:
 1. Screws for copper: Brass wood screws of sizes most appropriate for the function.
 2. Nails for copper: Hard copper barbed nails, not smaller than No. 2 or 12 stub gauge with large flat heads, and of sufficient length to penetrate the wood a minimum of 7/8".

SHEET METAL FLASHING AND TRIM

3. Copper rivets 1/8" diameter.
 4. Galvanized steel at PVC roof.
- C. Where face fastening at existing counter flashing is approved, provide neoprene washers at each fastening to assure water tightness.
- D. Lead free solder.

PART 3 – EXECUTION

3.01 INSTALLATION OF METAL FLASHINGS AND SHEET METAL

- A. General: Fabricate and install flashings and other sheet metal work in accordance with the general procedures specified in accordance with the publications entitled: "Modern Application of Sheet Copper in Building Construction" and "Copper and Common Sense".
- B. In all cases, use special care in installation procedures to ensure sufficient allowances for expansion and contraction of each type metal.
- C. Use rivet connections of metal in preference to solder connections, except where visual appearance is a major factor. When solder joints are specified or necessitated, ensure that all surfaces are pre-tinned and that the proper flux is used.
- D. Verify all wood nailers and other surfaces to which fasteners will be installed and request correction of same from the General Contractor where surfaces would not otherwise properly receive the fastenings.
- E. Generally, flashings and sheet metal work shall be in lengths not exceeding 8' and free from longitudinal joints. Coat all flashing in contact with dissimilar metal with asphalt paint. Form expansion joints in running flashing work by joining ends of sheets together with a 3" loose lock, filled with plastic cement, and install expansion joints every 24 feet in straight runs. Submit sample for approval.
- F. Coping and Other Non-specified Flashings: Fabricate and install all items in accordance with the details and specified publication standards.

END OF SECTION

DIVISION 070000

THERMAL AND MOISTURE PROTECTION

SECTION 077200

ROOF ACCESSORIES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Roof Accessories work required to complete the work of the contract including all the roof accessories work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all accessories. Coordinate the Roof Accessories work with all the other trades for the project. Provide all demolition and disposal work to complete the Roof Accessories work. Patch to match all adjacent surfaces that are disturbed, left exposed or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section and each Subcontractor for the entire project so that all the work can be properly and completely performed.
- B. Roof Accessory work includes, but is not limited to:
 - 1. Remove and dispose of all existing pad-style and pip-style snow guards.
 - 2. Provide and install new copper pad-style snow guards, with stainless steel fasteners, on the slate roof area, as shown on the roof plan.

ROOF ACCESSORIES

3. Provide and install new brass heavy duty, 3 rail, snow guards, with brass base plate fastened with stainless steel through bolts, on the lower copper flat seam roofs, as shown on the roof plan.

1.03 RELATED WORK

A. The following related work is to be performed under the designated Sections:

1. Section 020700, Selective Demolition
2. Section 073150, Slate Shingles
3. Section 076200, Sheet Metal Flashing and Trim

1.04 QUALITY ASSURANCE

- A. The snow guards shall be supplied by a manufacturer supplying similar products successfully for a minimum of 10 years.
- B. Installer to be experienced in the installation of specified roofing material and snow guards for not less than 5 years in the area of the project.

1.05 SHOP DRAWINGS

- A. Submit complete shop drawings in accordance with the provisions of the GENERAL CONDITIONS.
- B. Submit manufacturer's specifications, standard detail drawings, recommended layout and installation instructions.

1.06 SAMPLES

- A. Submit the following samples in accordance with the provisions of the GENERAL CONDITIONS:
1. One sample of each type of snow guard.

1.07 GUARANTEE

- A. Manufacturer shall provide his standard guarantees for work under this Section. However, such guarantees shall be in addition to and not in lieu of all other liabilities which the manufacturer and Contractor may have by law or by other provisions of the Contract Documents.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Inspect material upon delivery and order replacements for any missing or defective items. Keep material dry, covered and off the ground until installed.

PART 2 – PRODUCTS

2.01. GENERAL

- A. Snow Guards shall be manufactured by Alpine SnowGuards, A division of Vermont Slate & Copper Services Inc., P.O. Box 430, Stowe, VT (888) 766-4273, or approved equal.
- B. Products listed below are by Alpine SnowGuards. Products from other manufacturers may be used, provided their characteristics meet or exceed the listed requirements. All materials are to be provided from one manufacturer.

2.02 PAD-STYLE SNOW GUARDS

- A. Pad-style snow guards shall be a mill finished copper PD10 Gusseted snow guard, or approved equal. Snow guards shall be attached directly to the existing wood roof deck with stainless steel fasteners with a strength to exceed or be equal to that of the snow guard system.

2.03 SLATE ROOF AREAS

- A. Pipe style PP225 snow guard system consists of a mill finished brass base plate and flag fastened to the wood deck with four stainless steel through bolts with stainless steel nut and washer.
- B. Components;
 - 1. Snow Guard Bracket – 1/8” thick 260 Half Hard Brass
 - 2. Base Plate – 1/8” thick 260 Half Hard Brass
 - 2. Tubing – 272 Series Brass 1” outside diameter and 1/8” wall thickness.
 - 3. Couplings
 - a. Brass – 300 Series
 - b. Internal and concealed coupling 3” long
 - c. C230 external and exposed coupling 5” long
 - 4. End Caps – Brass plated 304 stainless steel

5. End Collars – C230 Brass
6. Ice Flags – 260 Brass
7. Ice Screen – 260
8. Connector – C87500 silicon Bronze 3/8” thick.
9. Fasteners shall be stainless steel through bolts with stainless steel nut and washer.

2.04 DESIGN REQUIREMENTS

- A. Spacing of pad-style snow guards to be as recommended by manufacturer.
- B. Spacing of pipe-style snow guards to be as indicated on the drawings.
- C. Minimum 2 stainless steel fasteners per pad-style snow guard.
- D. Minimum 4 stainless steel through bolt with stainless steel nut and washer per pipe-style base plate.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Substrate: Inspect roof system to be properly attached and installed to withstand additional loading incurred.
- B. Notify Engineer of any deficiencies before installing Alpine Snow Guards.

3.02 INSTALLATION

- A. Comply with architectural drawings and manufacturer’s recommendations for locations and with Manufacturer's instructions for installation.
- B. Align all snow guards parallel to each other and equidistant from the roof edge.
- C. Seal the base plate of the slate snow guard bracket to the wood deck with a non-hardening sealant for waterproofing and to allow removal and reinstallation when slate repairs are performed.
- D. Install pipes through snow guard brackets with tight splices and with end caps.

END OF SECTION

DIVISION 070000

THERMAL AND MOISTURE PROTECTION

SECTION 077233

ROOF HATCHES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Roof Hatch work required to complete the work of the contract including all the roof hatch work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all accessories. Coordinate the Roof Hatch work with all the other trades for the project. Provide all demolition and disposal work to complete the Roof Hatch work. Patch to match all adjacent surfaces that are disturbed, left exposed or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section and each Subcontractor for the entire project so that all the work can be properly and completely performed.
- B. Roof Hatch work includes, but is not limited to:
 - 1. Remove and dispose of the entire existing copper clad wood access hatch, as indicated in the drawings.
 - 2. Provide and install new 36" x 36" opening aluminum access hatch and all associated accessories, as indicated in the drawings.

3. Provide and install factory fabricated ladder safety post, as indicated in the drawings.

1.03 RELATED WORK

- A. The following related work is to be performed under the designated Sections:

1. Section 020700, Selective Demolition
2. Section 075430, PVC Single Ply Roofing
3. Section 061000, Rough Carpentry
4. Section 061053, Wood Blocking

1.04 QUALITY ASSURANCE

- A. The roof hatch shall be supplied by a manufacturer supplying similar products successfully for a minimum of 5 years.
- B. Installer to be experienced in the installation of specified roofing material and roof hatch for not less than 2 years in the area of the project.

1.05 SHOP DRAWINGS

- A. Submit complete shop drawings in accordance with the provisions of the GENERAL CONDITIONS.
- B. Submit manufacturer's specifications, standard detail drawings, recommended layout and installation instructions.

1.06 GUARANTEE

- A. Manufacturer shall provide their standard guarantees for work under this Section. However, such guarantees shall be in addition to and not in lieu of all other liabilities which the manufacturer and Contractor may have by law or by other provisions of the Contract Documents.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original packaging. Store materials in a dry, protected, well vented area. Inspect product upon receipt and report damaged material immediately to the manufacturer.

PART 2 – PRODUCTS

2.01. GENERAL

- A. The Roof Hatch shall be manufactured by The Bilco Company, P.O. Box 1203, New Haven, CT 06505, 1-800-366-6530, Fax: 1-203-933-8478, Web: www.bilco.com, or approved equal.
- B. Products listed below are by The Bilco Company. Products from other manufacturers may be used, provided their characteristics meet or exceed the listed requirements. All materials are to be provided from one manufacturer.

2.02 ROOF HATCH

- A. Provide and install, as indicated on the plans, Bilco metal roof hatch Type E, size 36” x 36”. The roof hatch shall be single leaf and the roof hatch shall be pre-assembled from the manufacturer.
- B. Performance Characteristics:
 - 1. Cover shall be reinforced to support a minimum live load of 40 psf with a maximum deflection of 1/150th of the span or 20 psf wind uplift.
 - 2. Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
 - 3. Operation of the cover shall not be affected by temperature.
 - 4. Entire hatch shall be weather tight with fully welded corner joints on cover and curb.
- C. Roof hatch cover shall be 11 gauge aluminum with a 3” beaded flange with formed reinforcing members. Cover shall have a heavy extruded EPDM rubber gasket that is bonded to the cover interior to assure a continuous seal when compressed to the top surface of the curb.
- D. Roof hatch cover insulation shall be fiberglass of 1” thickness, fully covered and protected by a metal liner 18 gauge aluminum.
- E. Roof hatch curb shall be 12” in height and of 11 gauge aluminum. The curb shall be formed with a 3-1/2” flange with 7/16” holes provided for securing to the wood blocking. The curb shall be equipped with an integral metal cap flashing of the same gauge and material as the curb, fully welded at the corners, that features the Bil-Clip flashing system, including stamped tabs, 6” on center, to be bent inward to hold single ply roofing membrane securely in place.

- F. Roof hatch curb insulation shall be rigid, high-density fiberboard of 1" thickness on the outside of the curb.
- G. Roof hatch lifting mechanism shall provide compression spring operators enclosed in the telescopic tubes to provide smooth, easy and controlled cover operation through the entire arc of the opening and closing. The upper tube shall be the outer tube to prevent accumulation of moisture, grit and debris inside the lower tube assembly. The lower tube shall interlock with a flanged support shoe welded to the curb assembly.
- H. Hardware
 1. Heavy pintle hinges shall be provided.
 2. Cover shall be equipped with a spring latch with interior and exterior turn handles.
 3. Roof hatch shall be equipped with interior and exterior padlock hasps.
 4. The latch strike shall be a stamped component bolted to the curb assembly.
 5. Cover shall automatically lock in the opening position with a rigid hold open arm equipped with a 1" diameter red vinyl grip handle to permit easy release for closing.
 6. Compression spring tubes shall be an anti-corrosive composite material and all other hardware shall be zinc plated and chromate sealed.
 7. Cover hardware shall be bolted into heavy gauge channel reinforcing welded to the underside of the cover and concealed within the insulation space.
- I. Factory finish shall be mill finished aluminum.

2.03 LADDER SAFETY POST

- A. Provide and install, as indicated on the drawings, Bilco galvanized steel ladder safety post. The ladder safety post shall be pre-assembled from the manufacturer.
- B. Performance characteristics:
 - a. Tubular post shall lock automatically when fully extended.
 - b. Safety post shall have controlled upward and downward movement.
 - c. Release lever shall disengage the post to allow it to be returned to its lowered position.
 - d. Post shall have adjustable mounting brackets to fit ladder rung spacing up to 14" on center and clamp brackets to accommodate ladder rungs to 1-3/4" in diameter.
- C. Post shall be manufactured of high strength square tubing. A pull up loop shall be provided at the upper end of the post to facilitate raising the post.
- D. A stainless steel spring balancing mechanism shall be provided to provide smooth, easy and controlled operation when raising and lowering the safety post.

- E. All mounting hardware shall be type 316 stainless steel
- F. Factory finish shall be hot dip galvanized steel.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Substrate: Inspect roof system to be properly attached and installed to withstand additional loading incurred.
- B. Notify Engineer of any deficiencies before installing Alpine Snow Guards.

3.02 INSTALLATION

- A. Comply with architectural drawings and manufacturer's recommendations for locations and with Manufacturer's instructions for installation.
- B. Install product in strict accordance with manufacturer's instructions and approved submittals. Locate units level, plumb and in proper alignment with adjacent work.
 - 1. Test units for proper function and adjust until proper operation is achieved.
 - 2. Repair finishes damaged during installation.
 - 3. Restore finished so no evidence remains of corrective work

3.03 ADJUSTING AND CLEANING

- A. Clean exposed surfaces using methods acceptable to the manufacturer which will not damage the finish.

END OF SECTION

DIVISION 07

THERMAL AND MOISTURE PROTECTION

SECTION 07 92 13

SEALANTS AND CAULKING

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that the equipment to be furnished complete in every respect, and that this Contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Sealants and Caulking work required to complete the work of the contract including all the Sealants and Caulking work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Sealants and Caulking work with all the other trades for the project. Provide all demolition and disposal work to complete the Sealants and Caulking work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each Subcontractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Sealants and caulking work includes, but is not limited to:
 - 1. Silicone sealant to be applied to, but not limited to, the entire perimeter of each existing metal louver, around entire perimeter of masonry chimney counter flashing, all termination bars, and around perimeter of all PVC roof vent pipe flashing.

2. Provide all sealants to provide a complete watertight installation as per good construction practice.

1.03 SUBMITTALS

- A. Product Literature: Submit product data sheets and the manufacturer's installation instructions.

1.04 PRODUCT HANDLING

- A. Delivery shall be in manufacturer's original unopened container, clearly identifying each product specified, relating it to the product literature submitted.

1.05 GUARANTEES

- A. Sealant shall be guaranteed by the manufacturer against cohesive and adhesive failure of the sealant and water penetration through the joints for TWENTY (20) years.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Primer: A primer shall be used at all locations in accordance with the manufacturer's instructions, with all primers being installed prior to the installation of any backer rod or bond breaker tape. Manufacturer shall be consulted for all surfaces not specifically covered in submittal application instructions.
- B. Provide Silicone Sealant: Dow Corning 795 or approved equal, see section 1.02.B.1 for locations.

PART 3 – EXECUTION

3.01 JOINT SURFACE PREPARATION

- A. Remove all failed sealants and clean joint surfaces immediately before installation of sealant and caulking compounds. Remove dirt, insecure coatings, moisture and other substances which would interfere with the bond of sealant or caulking compounds.

3.02 INSTALLATION

- A. Where backer rod is required it shall be installed using only blunt instruments or rounded tools which will insure a uniform depth (+ or - 1/8") depth without

puncturing the material. Backer rod shall be a minimum of 33% oversized for the joint to be sealed.

- B. Surrounding areas shall be protected to ensure that no sealant contaminates these surfaces.
- C. Sealant shall be installed in accordance with manufacturer's recommendations and instructions in order to insure proper width to depth ratio. Take all steps to prevent three (3) sided adhesion. Sealant depth shall be one half of joint width with a minimum depth of 1/4" and a maximum of 1/2" unless otherwise required by the manufacturer.
- D. Both temperature and dampness conditions may restrict application of these sealants. Comply with manufacturer's instructions.

END OF SECTION

DIVISION 09

FINISHES

SECTION 09 25 50

GYPSUM BOARD ASSEMBLIES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Gypsum Board Assemblies work required to complete the work of the contract including all the Gypsum Board Assemblies work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Gypsum Board Assemblies work with all the other trades for the project. Provide all demolition and disposal work to complete the Gypsum Board Assemblies work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Gypsum Board Assemblies work includes, but is not limited to:
 - 1. Install ½" gypsum wallboard (GWB) which shall be mechanically fastened to existing tongue and groove wood decking.

1.03 RELATED WORK

A. The following related work is to be performed under the designated SECTIONS:

1. Section 07920, Sealants and Caulking

1.04 DEFINITIONS

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA-505 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.05 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01000 Specification Sections.

B. Product Data for each type of product specified.

C. Shop Drawings showing locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.

D. Product certificates signed by manufacturers of gypsum board assembly components certifying that their products comply with specified requirements.

1.06 QUALITY ASSURANCE

A. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer, unless otherwise indicated.

B. Single-Source Responsibility for Panel Products: Obtain each type of gypsum board and other panel products from a single manufacturer.

C. Single-Source Responsibility for Finishing Materials: Obtain finishing materials from either the same manufacturer that supplies gypsum board and other panel products or from a manufacturer acceptable to gypsum board manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.

B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion,

construction traffic, and other causes. Neatly stack gypsum panels flat to prevent sagging.

1.08 PROJECT CONDITIONS

- A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.
- B. Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F (10 deg C) for 48 hours before application and continuously after until dry. Do not exceed 95 deg F (35 deg C) when using temporary heat sources.
- C. Ventilation: Ventilate building spaces as required to dry joint treatment materials. Avoid drafts during hot, dry weather to prevent finishing materials from drying too rapidly.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Gypsum Board and Related Products:
 - a. Domtar Gypsum.
 - b. Georgia-Pacific Corp.
 - c. National Gypsum Co.; Gold Bond Building Products Division.
 - d. United States Gypsum Co.

2.02 GYPSUM BOARD PRODUCTS

- A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.
 - 1. Widths: Provide gypsum board in widths of 48 inches (1219 mm).
- B. Gypsum Wallboard: ASTM C 36 and as follows:
 - 1. Thickness: ½ inch standard, in all areas indicated in drawings.

GYPSUM BOARD ASSEMBLIES

2.03 JOINT TREATMENT MATERIALS

- A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine substrates to which gypsum board assemblies attach or abut, existing tongue and groove wood deck, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Ensure existing tongue and groove wood decking is clear of all debris, prepped and ready to receive gypsum board assembly.

3.03 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

- A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
- B. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- C. Fit gypsum panels around any penetrations in the existing tongue and groove wood decking.
- D. Space fasteners in panels on tongue and groove wood deck substrate a maximum of 12 inches (304.8 mm) o.c..

3.04 GYPSUM BOARD APPLICATION METHODS

- A. Single-Layer Fastening Methods: Apply gypsum panels to substrate as follows:
 - 1. Fasten to tongue and groove wood deck with adhesive and supplementary nails or screws.

PARTIAL ROOF REPLACEMENT AT
PERLEY ELEMENTARY SCHOOL
GEORGETOWN MA, 01833
CBI JOB NO. 14147

CBI Consulting Inc.
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

3.05 CLEANING AND PROTECTION

- A. Promptly remove any residual joint compound from adjacent surfaces.
- B. Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION

DIVISION 15

MECHANICAL

SECTION 150100

TEMPORARY MECHANICAL DISCONNECTS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that the equipment and materials to be furnished complete in every respect, and that this Contractor shall provide all items needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WORK TO BE PERFORMED

- A. Provide all the Temporary Mechanical Disconnect work required to complete the work of the contract including all the Temporary Mechanical Disconnect work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Temporary Mechanical Disconnect work with all the other trades for the project. Provide all demolition and disposal work to complete the Temporary Mechanical Disconnect work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Temporary Mechanical Disconnect Work includes, but is not limited to:
 - 1. Temporary removal of all existing roof-mounted mechanical units during installation of new roof assembly system and reconnection of all units.

2. Coordinate any removal of equipment from service with the Owner's representative to minimize disruptions to the building operations.

PART 2 – PRODUCTS

2.01 GENERAL

- A. All fixtures, bolts and lag bolts shall be non-magnetic stainless steel.

PART 3 – EXECUTION

3.01 REMOVAL

- A. Ventilator units shall be disconnected and removed if their presence is in conflict with the removal or installation of the window system.
- B. If ventilator units are disconnected and removed, they shall be stored on site in a protected enclosure to protect them from any damage, inadvertent or otherwise. The Contractor shall be responsible for ensuring that all mechanical units are in proper working order.
- C. If any ventilator units are encountered which are not in proper working order, the Architect and the Owner shall be notified immediately.

3.02 MOUNTING

- A. The mechanical units shall be re-mounted to their original curbs or mounting frames and reconnected, tested, and inspected by the Architect or Owner before the roof area is completed.

END OF SECTION