RHODE ISLAND COLLEGE

PROJECT MANUAL

Rhode Island College
Roof Replacement
Roberts Hall
Providence, Rhode Island

William Starck Architects, Inc.

Issue Date: February 1, 2019

00 01 01 – TITLE PAGE

Owner:

State of Rhode Island Board of Education, Rhode Island College, and State of Rhode Island

In care of:

Capital Projects Administration
Rhode Island College
600 Mount Pleasant Avenue
Welcome Center 304
Providence, RI 02908
Phone: (401) 456-9885

Architect:

William Starck Architects, Inc.
126 Cove Street
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Disclaimer Note: Aerial image on cover page was taken prior to ductwork being installed and removal of certain rooftop units on Roof Level 5.

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END OF SECTION

00 01 15 – LIST OF DRAWINGS

GENERAL

The drawings for this project represent an integral part of the contract documents, and should not be considered as a separate entity. They, along with the technical specifications, form a complete process of disseminating specific information required to perform the work of this project.

The following schedule indicates the drawings of this project, ordered for convenience only, and do not obligate the Contractor to perform the work in any specific sequence, nor construed as specific work for a specific trade, subcontractor or supplier.

Dwg. No	Drawing Title	Date
	Cover/Title Sheet	Feb. 1, 2019

ARCHITECTURAL

Dwg. No.	Drawing Title	Date
G1.1	General Roof Notes, General Notes, Legend & Building Analysis	Feb. 1, 2019
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A1.3	Existing/ New Roof Plan - North Section of Building	Feb. 1, 2019
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END OF SECTION

00 10 00 - INSTRUCTIONS TO BIDDERS

Refer to the State Agency Solicitation provided by the State for Additional Instructions to Bidders.

END OF SECTION

00 30 00 – BID BOND AIA A310-2010

See AIA Document A310-2010, attached as the following page.

Refer to State Agency Solicitation provided by the State for additional Bid Bond requirements.

END OF SECTION

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)
TBD
TBD

SURETY:
(Name, legal status and principal place of business)
TBD
TBD

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)
TBD
TBD

BOND AMOUNT:

PROJECT:
(Name, location or address, and Project number, if any)
TBD
TBD

Project Number, if any:

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, 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.

Signed and sealed this day of

	(Principal)	*(Seal)*
(Witness)		
	(Title)	
	(Surety)	*(Seal)*
(Witness)		
	(Title)	

Init.

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00 31 00 – AVAILABLE INFORMATION

PART 1 - GENERAL

1.1 EXISTING CONDITIONS

A. Limited Asbestos Roof Survey, as prepared by Common Sense Environmental, Inc., dated December 2018; forty-four (44) pages total, found in Section 00 31 02, following.

B. Asbestos Abatement Plan, as prepared by NV5 Transactional Services, dated 1/17/19; forty-nine (49) pages total.

1. Copies of these documents are found in Section 00 31 02, following.
2. This plan identifies areas of observed and tested asbestos at the existing roof system building materials.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

00 31 02 – HAZARDOUS MATERIALS INSPECTION REPORT AND PROCEDURES

PART 1 - GENERAL

1.01 HAZARDOUS MATERIALS DISCOVERY

A. The Owner has determined that there are hazardous materials to be encountered under the work of this Project.

1.02 SECTION INCLUDES

A. The Contractor may be required to provide testing to verify the presence of other potentially hazardous materials, as directed by the Owner.

B. Prepare abatement plan(s).

C. The Prime Contractor shall be responsible for the removal and disposal of all hazardous-containing materials that have been found on the site. It is the intent of the Owner to have the Contractor remove and dispose all hazardous materials in full accordance with the Rhode Island Department of Health; Division of Occupational Health/Radiation Control and this Agency's issue "Rules and Regulation for Hazardous Materials Control", as amended to date.

"Invoices for removal and abatement shall be accompanied by approved shipping documents which describe final disposal location, date or disposal, approved signatures and General Contractor signature of acknowledgment."

1.03 RELATED WORK:

A. Documents affecting work of this section including but not necessarily limited to General Conditions, Supplementary Conditions, and sections in Division 1 of these Specifications.

1.04 RELATED REPORTS

A. Pertinent portions of applicable Survey and Sampling Reports are included herein, following this page.

1. CONTRACTOR NOTE WELL: Quantities and estimated removal costs if applicable, are for reference only. The Contractor shall verify all quantities and assume all costs relative to the complete and proper removal and disposal of hazardous materials abatement.

1.05 ABATEMENT PROCEDURES (By the Contractor)

A. The Contractor shall obtain the services of a State-Certified Abatement Consultant to prepare an approved hazardous-materials abatement plan, monitoring and clearance samples.

B. Obtain the services of a State Certified Abatement Contractor to remove and dispose the hazardous materials in accordance with Federal, State and Local rules and regulations.

C. Retain hazardous materials abatement invoices for submittal with required close-out record documents. Invoices must be accompanied by complete shipping documents showing final disposal location.

D. A Pre-abatement Meeting with the Owner's Representative, the Prime Contractor, and the designated Abatement Contractor shall be held one (1) week prior to removal.

E. Provide other abatement related services not specifically described herein, but needed for a complete and proper job.

PART 2 - PRODUCTS

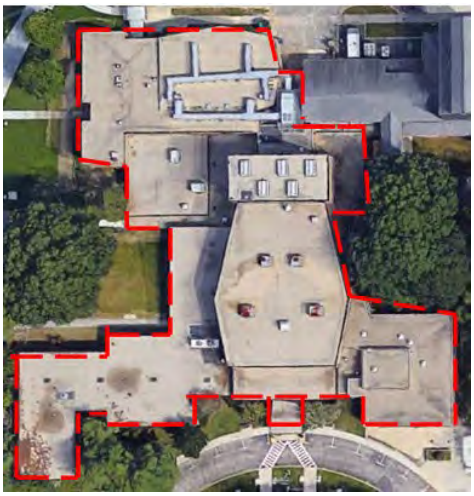
Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

Limited Asbestos Roof Survey and Limited Roof Composition Documentation Rhode Island College – Roberts Hall Roof 600 Mount Pleasant Avenue Providence, Rhode Island 02908



Prepared for:

William Starck Architects, Inc.
126 Cove Street
Fall River, MA 02720

Prepared by:

Common Sense Environmental, Inc.

38 Elm Street
New Bedford, MA 02740
508-858-5606

December 2018

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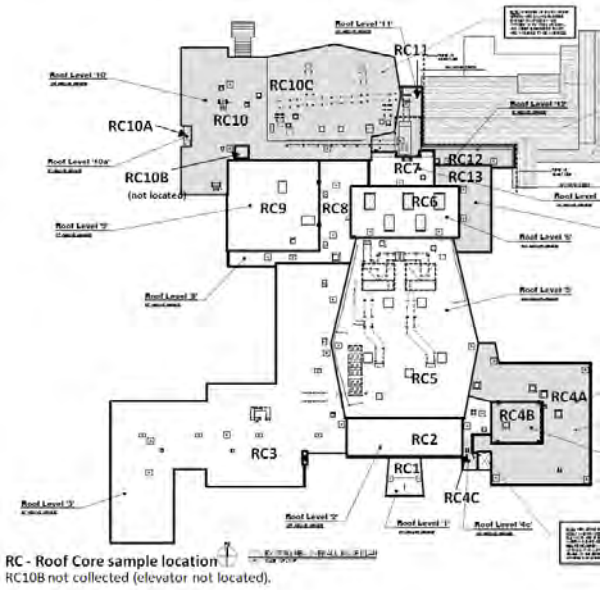
1.0 Introduction

This limited asbestos survey report and limited roof composition documentation is being submitted on behalf of William Starck Architects, Inc. (WSA) for Rhode Island College to support the replacement of the roof at Roberts Hall at Rhode Island College. In order to determine the feasibility of completing future renovations at the roof area a limited destructive survey for asbestos containing materials (ACMs) and Limited Roof composition documentation was conducted at Roberts Hall, which is located on the Rhode Island College campus at 600 Mount Pleasant Street in Providence, RI.

The Roberts Hall roof area is roughly 53,000 cumulative square feet and is divided into seventeen (17) different roof levels (RC1-RC13, levels RC4 and RC10 each have 3 levels within them (RC4A, RC4B, RC4C, RC10A and RC10C)). RC10B could not be located. The diagram at right outlines the Study Area. The construction date of the roof is estimated at circa 1963.



Qualified personnel from Common Sense Environmental (Common Sense) conducted the asbestos survey sampling following procedures generally accepted and recommended by the United States Environmental Protection Agency (US EPA), the United States Occupational Safety Health Administration (OSHA) and the Rhode Island Department of Health (RIDOH).

The scope of work was enlarged while on site to include roofing materials and other suspect materials observed at the exterior rooftop.

Upon sampling and analysis, several of the sampled materials were found to contain greater than 1% asbestos (see Section 4.0 for identified ACMs). The ACMs identified should be removed by a RIDOH licensed asbestos abatement contractor in accordance with an approved Asbestos Abatement Plan written by a RIDOH licensed Asbestos Project Designer, prior to disturbance during any planned renovations. ACMs should be managed in place under an operations and maintenance program until removal takes place.

2.0 Bulk Sampling Information

The suspect ACMs were characterized by the analysis of bulk samples collected by Cynthia Gilchrest (RI License No. AAC-0937) on November 28, 2018.

Licensed and trained personnel have made an effort to characterize visible and readily accessible suspect ACMs at the exterior roof area of the building. The survey was destructive and sampling locations were immediately repaired by Eagle Cornice Company, Inc. No survey can be all encompassing and , as such, should construction workers encounter and/or need to disturb any product(s) suspected as being ACM, that have not been previously identified or sampled, during any renovation activities in the future, all proper precautions should be taken to ensure these materials are appropriately characterized and handled accordingly. While heating system pipes appeared to be visible and located outside of wall cavities in many cases, it is possible that older pipes insulated with asbestos thermal system insulation exists in uninspected wall cavities. If these materials are encountered, they should be characterized and handled in accordance with applicable local, state and federal regulations.

Survey procedures included a visual assessment of suspect ACM identified by licensed and trained personnel. Visual assessment included the touching of identified suspect ACM to determine its friability, (when dry, may be crushed, pulverized, or reduced to powder by hand pressure), identification of homogeneous areas of identified suspect ACM, approximate quantification of identified suspect ACM, collection of bulk samples for analysis, and assessment of the condition of suspect ACM. The USEPA's *Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials*, was used as a guide for this survey.

Each homogenous area of suspect ACM was assessed to determine the asbestos hazard. A homogeneous area is defined as a material that is uniform in color or texture with a similar appearance and an application on similar components. Factors considered when assessing homogeneous area hazards include the friability of the material, the condition of the material including type, severity, and extent of damage, and accessibility of the material and potential for further damage and disturbance.

Sampling methods were designed to minimize damage to the ACM and subsequent fiber release. Samples were collected using disposable samplers, similar to a cork borer and utility knife. Samples were extracted to the substrate and ejected into a pre-labeled asbestos sample bag. The bag was then sealed, recorded in a sample logbook, and sent to the laboratory for analysis.

Samples were submitted to and analyzed by Asbestos Identification Laboratory (AIL) of Woburn, Massachusetts. AIL is accredited through the National Voluntary Laboratory Accreditation Program (NVLAP No. 2000919-0) and is listed by the Rhode Island Department of Department of Health as an approved laboratory. All samples were analyzed in accordance with USEPA recommended protocol ("Follow-up to the Interim Method for Determination of Asbestos in Bulk Insulation Samples" - EPA 600/R-93/116 method "Visual Estimate") using polarized light microscopy (PLM) supplemented by dispersion staining techniques.

Sixty-five (65)asbestos bulk samples were collected at the exterior roof area of the building, with instructions to the laboratory to stop at the first positive results obtained for each homogeneous material sample set. Based on this instruction, 65 bulk samples were laboratory analyzed by AIL. **Appendix A** contains a chain-of-custody and a copy of the bulk sampling results, as provided by AIL.

As confirmed by laboratory analyses and as summarized in Section 4.0 of this report, several of the sampled materials were found to have asbestos content equal to or greater than 1% asbestos. As such, the ACMs identified should be removed by a RIDOH licensed asbestos

abatement contractor in accordance with an approved Asbestos Abatement Plan written by a RIDOH licensed Asbestos Project Designer, prior to disturbance during any planned renovations. ACMs should be managed in place under an operations and maintenance program until removal takes place.

3.0 Background Air Sampling

As the scope of this project consisted solely of an asbestos exterior roof survey only, no background air sampling was conducted during this survey. However, now that asbestos has been detected and future abatements may be necessary, pre-abatement air samples may be required as a part of the development of a required Asbestos Abatement Plan, if abatement is to take place.

4.0 Description of Identified Areas and Suspect Materials

This asbestos survey has been completed at Roberts Hall Roof at Rhode Island College for potential future renovations of the building.

The suspect ACMs sampled during the survey included roofing material and surfacing materials. Sampled materials and results are summarized in the following table. Materials which tested positive for asbestos through laboratory analysis are indicated by bold type on the attached Table and include the asbestos content identified through laboratory analysis.

December 10, 2018

Cynthia Gilchrest
Common Sense Environmental, Inc.
38 Elm St.
New Bedford, MA 02740

Project Number:
Project Name: Roberts Hall Roof- RI College, Providence, RI
Date Sampled: 2018-12-02
Work Received: 2018-12-06
Work Analyzed: 2018-12-07

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1A / 420195	Aged Patch	1	black	Cellulose 20 Non-Fibrous 75	Detected Chrysotile 5
1B / 420196	Black Patch Dumpy	1	black	Non-Fibrous 100	None Detected
2A / 420197	Grey Tile	2	black	Cellulose 20 Non-Fibrous 80	None Detected
2B / 420198	Blk Patch	2	black	Non-Fibrous 100	None Detected
2C / 420199	Silver Alligator	2	silver	Non-Fibrous 100	None Detected
2C1 / 420200	Silver Alligator	2	silver	Non-Fibrous 100	None Detected
3A / 420201	Blk Patch	3	black	Non-Fibrous 100	None Detected
3B / 420202	Asphalt Tile	3	black	Fiberglass 5 Cellulose 15 Non-Fibrous 80	None Detected
3B1 / 420203	Asphalt Tile	3	black	Cellulose 20 Non-Fibrous 80	None Detected
3C / 420204	Aged BK Patch	3	black	Non-Fibrous 100	None Detected
3E / 420205	Brown Tile	3	black	Fiberglass 30 Non-Fibrous 70	None Detected
4B1 / 420206	Aged Black Patch	4	black	Non-Fibrous 100	None Detected
4B2 / 420207	Grey Asphalt Tile	4	black	Fiberglass 30 Non-Fibrous 70	None Detected
4B3 / 420208	Black Patch Bumpy	4	black	Fiberglass 20 Non-Fibrous 80	None Detected

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FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
5A / 420209	Grey Asphalt Tile	5	black	Cellulose 20 Non-Fibrous 80	None Detected
5B / 420210	Aged Black Patch	5	black	Fiberglass 5 Cellulose 15 Non-Fibrous 70	Detected Chrysotile 10
5C / 420211	New Patch	5	black	Non-Fibrous 100	None Detected
6A / 420212	Brown Asphalt Tile	6	black	Fiberglass 20 Non-Fibrous 80	None Detected
6B / 420213	New Patch	6	black	Non-Fibrous 70	Detected Chrysotile 30
6C / 420214	Aged Black Patch	6	black	Non-Fibrous 100	None Detected
8A / 420215	Corrugated Black	8	black	Non-Fibrous 70	Detected Chrysotile 30
8B / 420216	Black Patch Aged	8	black	Fiberglass 40 Non-Fibrous 60	None Detected
8C / 420217	Brown Asphalt Tile	8	black	Fiberglass 40 Non-Fibrous 60	None Detected
9A / 420218	Black Asphalt Tile	9	black	Cellulose 18 Non-Fibrous 80	Detected Chrysotile 2
10B / 420219	Asphalt Tile Gray		black	Fiberglass 40 Non-Fibrous 60	None Detected
12A / 420220	Green Asphalt Tile	12	black	Cellulose 20 Non-Fibrous 80	None Detected
12B / 420221	Silver Alligator	12	silver	Non-Fibrous 100	None Detected
12C / 420222	NO SAMPLE	NO SAMPLE			Not Analyzed
13C / 420223	Aged Black Paper	13	black	Non-Fibrous 70	Detected Chrysotile 30
RC7 / 420224	Yellow Insulation	RC7	yellow	Fiberglass 100	None Detected
RC6 / 420225	Yellow Insulation	RC6	yellow	Fiberglass 100	None Detected
RC9 / 420226	Yellow Insulation	RC9	yellow	Fiberglass 100	None Detected

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FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
RC3 / 420227	Yellow Insulation	RC3	yellow	Fiberglass 100	None Detected
RC4B / 420228	Yellow Insulation	RC4B	yellow	Fiberglass 100	None Detected
RC10 / 420229	Fiberboard	RC10	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC4C / 420230	Fiberboard		gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC10C / 420231	Fiberboard	RC10C	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC2 / 420232	Fiberboard	RC2	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC5 / 420233	Fiberboard	RC5	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC3 / 420234	Iso Board		yellow	Non-Fibrous 100	None Detected
RC5 / 420235	Iso Board		yellow	Non-Fibrous 100	None Detected
RC6 / 420236	Iso Board		yellow	Non-Fibrous 100	None Detected
RC9 / 420237	Iso Board		yellow	Non-Fibrous 100	None Detected
RC10 / 420238	Iso Board		yellow	Non-Fibrous 100	None Detected
RC10C / 420239	Iso Board		yellow	Non-Fibrous 100	None Detected
RC13 / 420240	Iso Board		yellow	Non-Fibrous 100	None Detected
RC5 / 420241	Gypsum	RC5	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC9 / 420242	Gypsum	RC9	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC8 / 420243	Gypsum	RC8	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC13 / 420244	Gypsum	RC10	gray	Cellulose 2 Non-Fibrous 98	None Detected

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FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
RC7 / 420245	Gypsum	RC7	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC10A / 420246	Roof Paper on Iso Board	RC10A	black	Cellulose 60 Non-Fibrous 40	None Detected
RC3 / 420247	Asphalt Top of Roof	RC3	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC5 / 420248	Asphalt Top of Roof	RC5	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC6 / 420249	Asphalt Top of Roof	RC6	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC9 / 420250	Asphalt Top of Roof	RC9	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC10 / 420251	Asphalt Paper Top of Roof	RC10	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC10C / 420252	Asphalt Paper Top of Roof	RC10C	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC13 / 420253	Asphalt Paper Top of Roof	RC13	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC11 / 420254	At Deck Paper	RC11	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC8 / 420255	At Deck Paper	RC8	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC6 / 420256	At Deck Paper	RC6	black	Fiberglass 70 Non-Fibrous 30	None Detected
RC9 / 420257	At Deck Paper	RC9	black	Fiberglass 20 Cellulose 40 Non-Fibrous 40	None Detected
RC3 / 420258	At Deck Paper	RC3	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC4A / 420259	At Deck Paper	RC4A	black	Fiberglass 20 Cellulose 40 Non-Fibrous 40	None Detected
RC12 / 420260	At Deck Paper	RC12	black	Cellulose 90 Non-Fibrous 10	None Detected

Monday 10 December
Analyzed by:

End of Report
Batch: 38111

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5.0 Summary/Conclusions

Common Sense completed a limited asbestos survey at the roof area of Roberts Hall Roof at Rhode Island College, located at 600 Mount Pleasant Street in Providence, Rhode Island.

Sixty Five (65) asbestos bulk samples were collected from the subject roof area, with instructions to the laboratory to stop at the first positive results obtained for each homogeneous material sample

set. Based on this instruction, 65 bulk samples were laboratory analyzed by AIL. Appendix A contains a chain-of-custody and a copy of the bulk sampling results, as provided by AIL.

As can be seen in the attached results and as summarized in Section 4.0 of this report, several of the sampled materials were found to have asbestos content equal to or greater than 1% asbestos. As such, the ACMs identified should be removed by a RIDOH licensed asbestos abatement contractor in accordance with an approved Asbestos Abatement Plan written by a RIDOH licensed Asbestos Project Designer, prior to disturbance during any planned renovations. ACMs should be managed in place under an operations and maintenance program until removal takes place.

The materials found to contain greater than 1% asbestos and are summarized in the following table:

Sample No.	Location	Description	Asbestos Content	Estimated square feet
1A	RC1	Aged patch	5% Chrysotile	69.5
5B	RC5	Aged black patch	10% Chrysotile	260
6B	RC6	New patch	30% Chrysotile	126
8A	RC8	Corrugated Black	30% Chrysotile	204
9A	RC9	Black asphalt tile	2% Chrysotile	165
13C	RC13	Aged black paper	30% Chrysotile	100

Photographs of the above materials are attached to the is document. This report has been prepared for the sole benefit of WSA. The report may not be used by any other person or entity without the express written consent of Common Sense Environmental, Inc.

Any use which a third party makes of this report, or any reliance on decisions made based on it, are the responsibility of such third parties. Common Sense accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

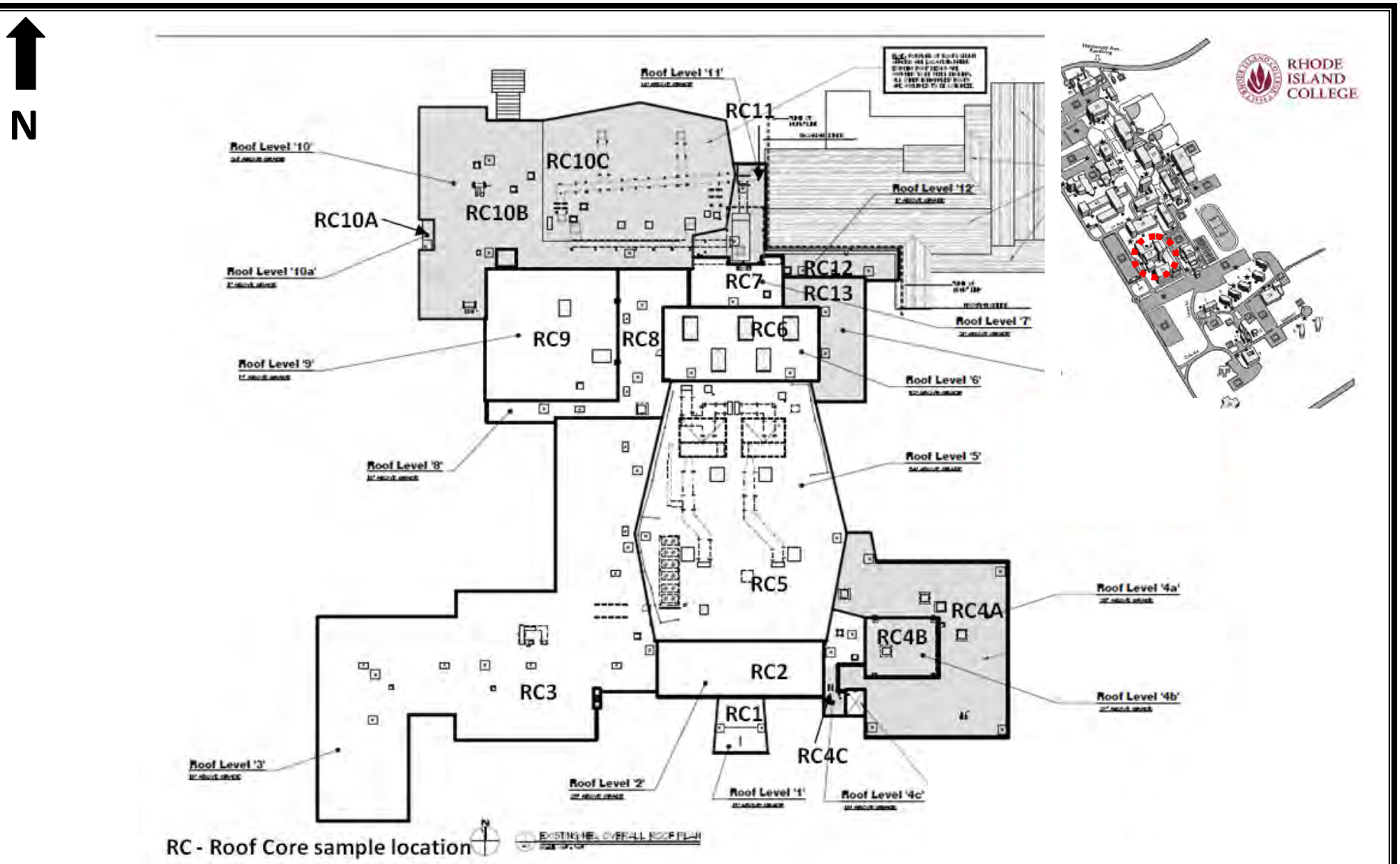
The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Conclusions presented in this report should not be construed as legal or medical advice.

The conclusions presented in this report represent the best technical judgment of Common Sense based on the data obtained from the work. The conclusions are based on the site conditions encountered by licensed and trained personnel at the time work was performed at the specific inspection and/or sampling locations.

5.0 Signature(s) of Environmental Professional(s)

Cynthia S. Gilchrest

Cynthia S. Gilchrest
Senior Project Manager
RI License No. AAC-0937



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38 Elm Street
New Bedford, MA 02740
508-858-5606

Figure 1 – Site Locus
Roberts Hall - Rhode Island College
Providence, RI
December 2018

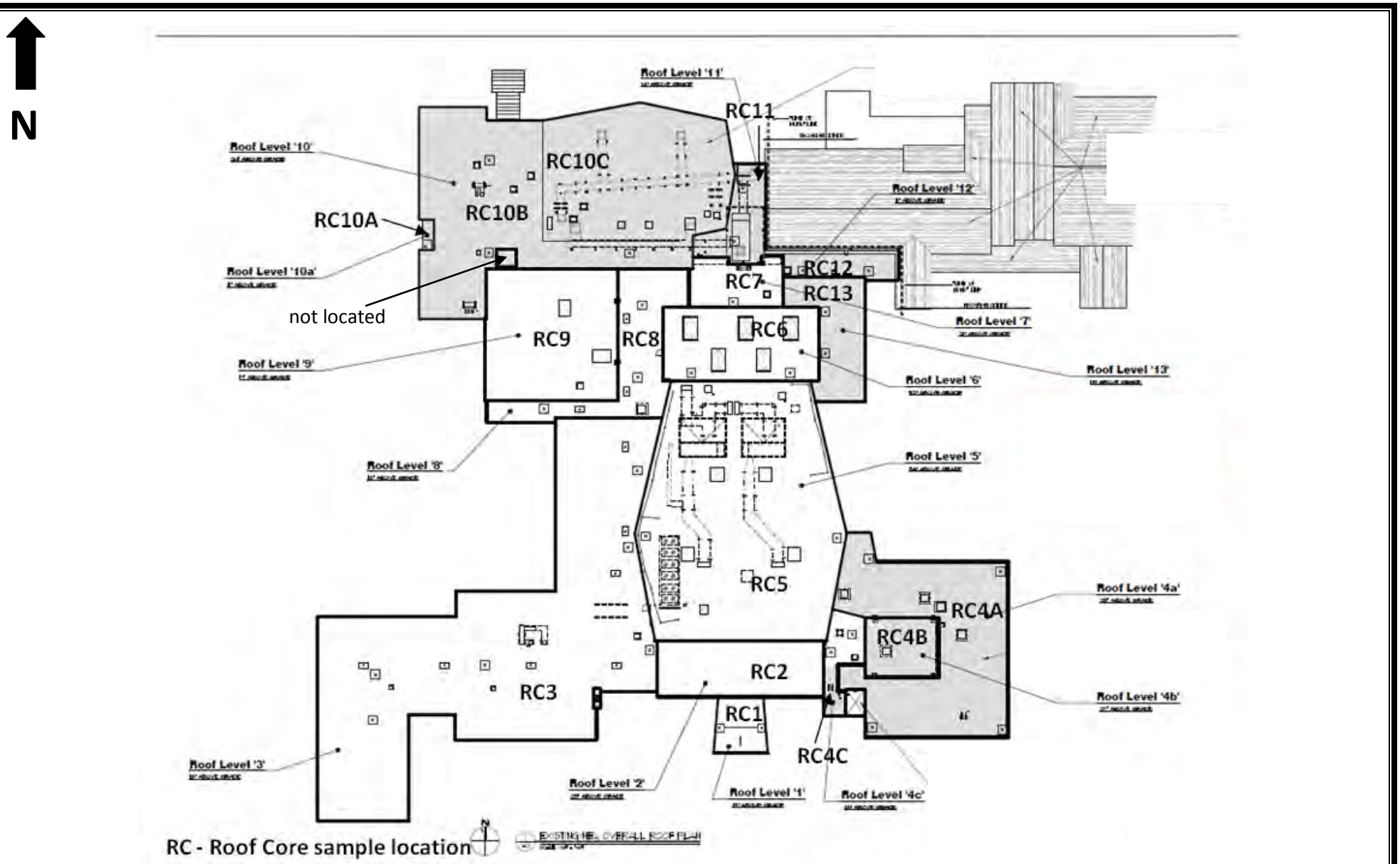

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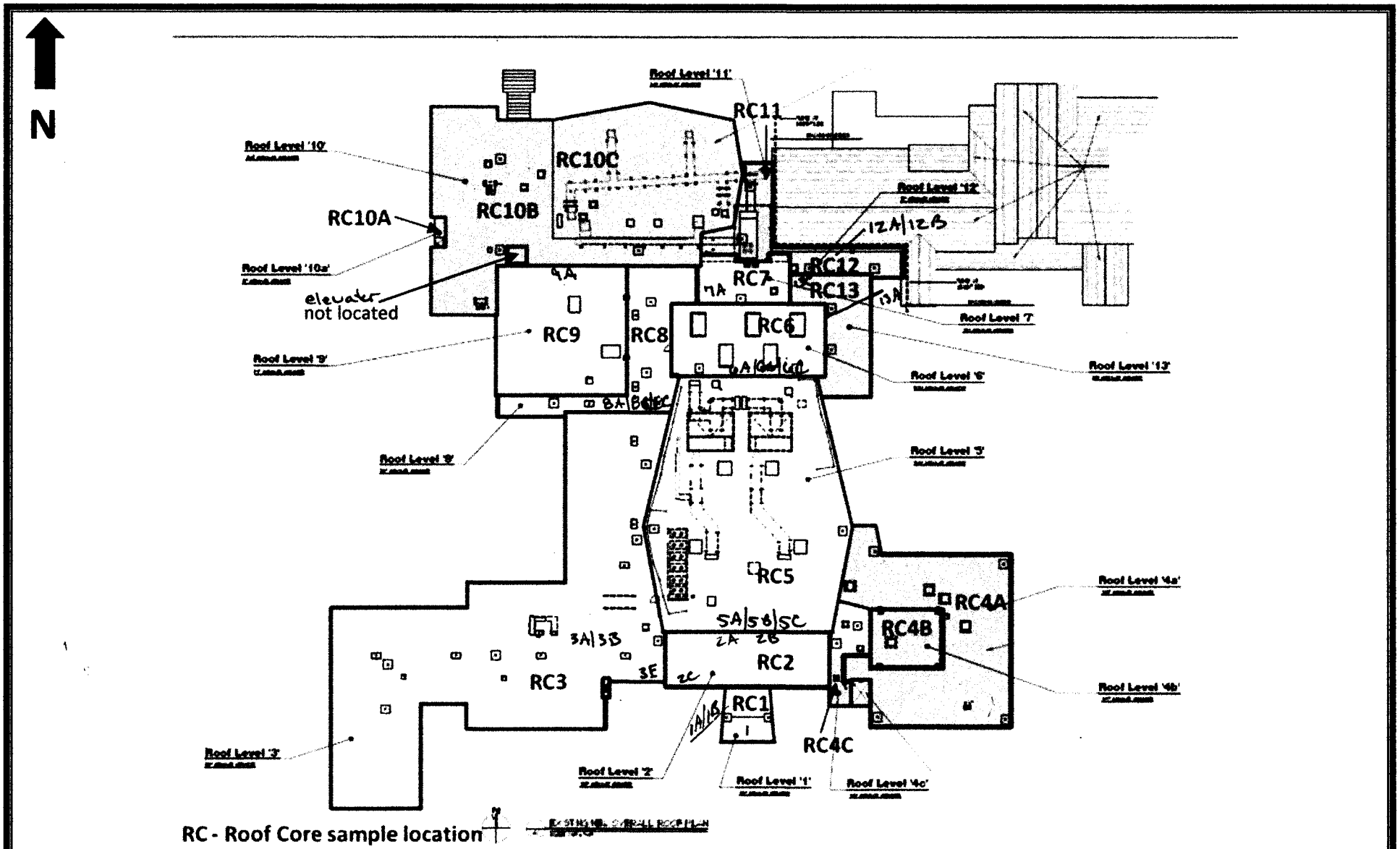
Figure 2 - Roof Core (RC) Locations
Roberts Hall - Rhode Island College
Providence, RI
December 2018



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508-858-5606

Figure 3 - Asbestos and Roof Core (RC) Locations
Roberts Hall - Rhode Island College
Providence, RI
December 2018

APPENDIX A

Asbestos Bulk Sampling Results

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 38111

NVLAP®
Lab Code: 200919-0

December 10, 2018

Cynthia Gilchrest
Common Sense Environmental, Inc.
38 Elm St.
New Bedford, MA 02740

Project Number:
Project Name: Roberts Hall Roof- RI College, Providence, RI
Date Sampled: 2018-12-02
Work Received: 2018-12-06
Work Analyzed: 2018-12-07

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Cynthia Gilchrest,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Cynthia Gilchrest for your business.

Michael Manning
Owner/Director

December 10, 2018

Cynthia Gilchrest
Common Sense Environmental, Inc.
38 Elm St.
New Bedford, MA 02740

Project Number:

Project Name: Roberts Hall Roof- RI College, Providence, RI

Date Sampled: 2018-12-02

Work Received: 2018-12-06

Work Analyzed: 2018-12-07

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1A / 420195	Aged Patch	1	black	Cellulose 20 Non-Fibrous 75	Detected Chrysotile 5
1B / 420196	Black Patch Dumpy	1	black	Non-Fibrous 100	None Detected
2A / 420197	Grey Tile	2	black	Cellulose 20 Non-Fibrous 80	None Detected
2B / 420198	Blk Patch	2	black	Non-Fibrous 100	None Detected
2C / 420199	Silver Alligator	2	silver	Non-Fibrous 100	None Detected
2C1 / 420200	Silver Alligator	2	silver	Non-Fibrous 100	None Detected
3A / 420201	Blk Patch	3	black	Non-Fibrous 100	None Detected
3B / 420202	Asphalt Tile	3	black	Fiberglass 5 Cellulose 15 Non-Fibrous 80	None Detected
3B1 / 420203	Asphalt Tile	3	black	Cellulose 20 Non-Fibrous 80	None Detected
3C / 420204	Aged BK Patch	3	black	Non-Fibrous 100	None Detected
3E / 420205	Brown Tile	3	black	Fiberglass 30 Non-Fibrous 70	None Detected
4B1 / 420206	Aged Black Patch	4	black	Non-Fibrous 100	None Detected
4B2 / 420207	Grey Asphalt Tile	4	black	Fiberglass 30 Non-Fibrous 70	None Detected
4B3 / 420208	Black Patch Bumpy	4	black	Fiberglass 20 Non-Fibrous 80	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
5A 420209	Grey Asphalt Tile	5	black	Cellulose 20 Non-Fibrous 80	None Detected
5B 420210	Aged Black Patch	5	black	Fiberglass 5 Cellulose 15 Non-Fibrous 70	**Detected** **Chrysotile 10**
5C 420211	New Patch	5	black	Non-Fibrous 100	None Detected
6A 420212	Brown Asphalt Tile	6	black	Fiberglass 20 Non-Fibrous 80	None Detected
6B 420213	New Patch	6	black	Non-Fibrous 70	**Detected** **Chrysotile 30**
6C 420214	Aged Black Patch	6	black	Non-Fibrous 100	None Detected
8A 420215	Corrugated Black	8	black	Non-Fibrous 70	**Detected** **Chrysotile 30**
8B 420216	Black Patch Aged	8	black	Fiberglass 40 Non-Fibrous 60	None Detected
8C 420217	Brown Asphalt Tile	8	black	Fiberglass 40 Non-Fibrous 60	None Detected
9A 420218	Black Asphalt Tile	9	black	Cellulose 18 Non-Fibrous 80	**Detected** **Chrysotile 2**
10B 420219	Asphalt Tile Gray		black	Fiberglass 40 Non-Fibrous 60	None Detected
12A 420220	Green Asphalt Tile	12	black	Cellulose 20 Non-Fibrous 80	None Detected
12B 420221	Silver Alligator	12	silver	Non-Fibrous 100	None Detected
12C 420222	NO SAMPLE	NO SAMPLE			Not Analyzed
13C 420223	Aged Black Paper	13	black	Non-Fibrous 70	**Detected** **Chrysotile 30**
RC7 420224	Yellow Insulation	RC7	yellow	Fiberglass 100	None Detected
RC6 420225	Yellow Insulation	RC6	yellow	Fiberglass 100	None Detected
RC9 420226	Yellow Insulation	RC9	yellow	Fiberglass 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
RC3 420227	Yellow Insulation	RC3	yellow	Fiberglass 100	None Detected
RC4B 420228	Yellow Insulation	RC4B	yellow	Fiberglass 100	None Detected
RC10 420229	Fiberboard	RC10	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC4C 420230	Fiberboard		gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC10C 420231	Fiberboard	RC10C	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC2 420232	Fiberboard	RC2	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC5 420233	Fiberboard	RC5	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC3 420234	Iso Board		yellow	Non-Fibrous 100	None Detected
RC5 420235	Iso Board		yellow	Non-Fibrous 100	None Detected
RC6 420236	Iso Board		yellow	Non-Fibrous 100	None Detected
RC9 420237	Iso Board		yellow	Non-Fibrous 100	None Detected
RC10 420238	Iso Board		yellow	Non-Fibrous 100	None Detected
RC10C 420239	Iso Board		yellow	Non-Fibrous 100	None Detected
RC13 420240	Iso Board		yellow	Non-Fibrous 100	None Detected
RC5 420241	Gypsum	RC5	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC9 420242	Gypsum	RC9	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC8 420243	Gypsum	RC8	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC13 420244	Gypsum	RC10	gray	Cellulose 2 Non-Fibrous 98	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
RC7 / 420245	Gypsum	RC7	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC10A / 420246	Roof Paper on Iso Board	RC10A	black	Cellulose 60 Non-Fibrous 40	None Detected
RC3 / 420247	Asphalt Top of Roof	RC3	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC5 / 420248	Asphalt Top of Roof	RC5	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC6 / 420249	Asphalt Top of Roof	RC6	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC9 / 420250	Asphalt Top of Roof	RC9	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC10 / 420251	Asphalt Paper Top of Roof	RC10	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC10C / 420252	Asphalt Paper Top of Roof	RC10C	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC13 / 420253	Asphalt Paper Top of Roof	RC13	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC11 / 420254	At Deck Paper	RC11	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC8 / 420255	At Deck Paper	RC8	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC6 / 420256	At Deck Paper	RC6	black	Fiberglass 70 Non-Fibrous 30	None Detected
RC9 / 420257	At Deck Paper	RC9	black	Fiberglass 20 Cellulose 40 Non-Fibrous 40	None Detected
RC3 / 420258	At Deck Paper	RC3	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC4A / 420259	At Deck Paper	RC4A	black	Fiberglass 20 Cellulose 40 Non-Fibrous 40	None Detected
RC12 / 420260	At Deck Paper	RC12	black	Cellulose 90 Non-Fibrous 10	None Detected

Client: Common Sense Environmental, Inc.
Address: 38 Elm St, New Bedford, MA 02740
Project Site: Roberts Hall Roof - RI College, Providence, RI
Phone / email address: 508-726-0902
Cynthia@CommonSenseEnv.com
Contact: Cynthia Gilchrest
Relinquish by/date: 12/2/18
Received by/date: Elena Beatis 12/6/18
# of Samples Received: 166

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165-U New Boston St.
Suite 271
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Date Sampled: 11/28/2018

BATCH# 38111

Rev. 6/14

Turnaround Time		Sample Method	
	Less 3 Hrs	X	Bulk
	Same Day		Soil
	Next Day		Wipe
X	Two Day		Point Count

Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Anayzed By: [illegible]
Date: 12/7/18

Temp in Celcius = 25

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
420195	1A	Material: Aged Patch; Location: 1	Ø	Bk	N	F/Gn	N	Chrysotile	S	W	N	+	0.005	NC	1.555	1.550			R				75
								Amosite															
								Crocidolite															
								Tremolite											20				
								Anthophylite															
								Actinolite															
96	1B	Material: Black patch bumpy; Location: 1	Ø	Bk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
97	2A	Material: Gray tile; Location: 2	Ø	Bk	N	F/Gn	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															80
								Anthophylite											20				
								Actinolite															

DNA

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
98	2B	Material: Blk Patch Location: 2	0	Blk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
99	2C	Material: Silver Alligator Location: 2	0	S	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
200	2C7	Material: Silver Alligator Location: 2	0	S	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
01	3A	Material: Blk Patch Location: 3	0	Blk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
02	3B	Material: Asphalt tile Location: 3	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									I		R				
								Crocidolite															
								Tremolite															
								Anthophylite									5		15				80
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
83	3B1	Material: Asphalt tile Location: 3	0	Bk	N	F/Gr	N	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											20				80
								Anthophylite															
								Actinolite															
84	3C	Material: Aged bk patch Location: 3	0	Bk	Y	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
85	3E	Material: Brown Tile Location: 3	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite															
								Anthophylite									30						70
								Actinolite															
86	4B1	Material: Aged Black patch Location: 4	0	Bk	Y	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
87	4B2	Material: gray asphalt tile Location: 4	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite															
								Anthophylite									30						70
								Actinolite															
88	4B3	Black patch bumpy 4	0	Bk	N	F/Gr	N										1/20						80

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
09	5A	Material: Grey Asphalt tile Location: 5	0	Bk	Y	Gn	N	Chrysotile	~~40~~	~~w~~	~~n~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophylite											20				
								Actinolite															80
10	5B	Material: aged Black Patch Location: 5	0	Bk	N	F/Gn	N	Chrysotile	10	w	n	+	0.005	NC	1.555	1.550							
								Amosite															
								Crocidolite									1		R				
								Tremolite															
								Anthophylite									5		15				
								Actinolite															70
11	5C	Material: New Patch Location: 5	0	Bk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															
								Actinolite															100
12	6A	Material: Brown Asphalt tile Location: 6	0	Bk	N	F/Gn	N	Chrysotile	~~5~~	~~w~~	~~n~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite															
								Crocidolite									1						
								Tremolite															
								Anthophylite									20						
								Actinolite															80
13	6B	Material: New Patch Location: 6	0	Bk	Y	Gn	N	Chrysotile	30	w	n	+	0.005	NC	1.555	1.550							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															
								Actinolite															70

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
14	6C	Material: Aged Black Patch; Location: 6	0	Blk	N	F/Gn	N	Chrysotile	~~30~~	~~w~~	~~u~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite								R							
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
15	8A	Material: Corrugated Black; Location: 8	0	Blk	N	F/Gn	N	Chrysotile	30	w	u	+	0.005	NC	1.555	1.550							
								Amosite									~~I~~						
								Crocidolite															
								Tremolite									~~40~~ R						70
								Anthophylite															
								Actinolite															
16	8B	Material: Black patch aged; Location: 8	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite															
								Crocidolite									I						
								Tremolite															60
								Anthophylite									40						
								Actinolite															
17	8C	Material: Brown Asphalt Tile; Location: 8	0	Blk	N	F/Gn	N	Chrysotile	~~10~~	~~w~~	~~u~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite							R								
								Crocidolite									I		R				
								Tremolite															60
								Anthophylite									40		~~10~~ R				
								Actinolite															
18	9A	Material: Black Asphalt Tile; Location: 9	0	Blk	N	F/Gn	N	Chrysotile	~~20~~ 20	w	u	+	0.005	NC	1.555	1.550							
								Amosite									~~I~~		R				
								Crocidolite															
								Tremolite									R						80
								Anthophylite									~~30~~		18				
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
19	16A	Material: Asphalt Tile gray Location	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									2						
								Crocidolite															
								Tremolite															
								Anthophylite									40						60
								Actinolite															
20	12A	Material: Gray Asphalt tile Location: 12	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophylite											20				80
								Actinolite															
21	12B	Material: Silver Alligator Location: 12	0	S	Y	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
22	12C	Material: Black Asphalt tile Location: 12	~~0~~	~~Bk~~	~~N~~	~~F/Gr~~	~~N~~	Chrysotile	~~30~~	~~w~~	~~n~~	~~y~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite															
								Crocidolite			R												
								Tremolite															
								Anthophylite														~~70~~	
								Actinolite															
23	13C	Material: Aged Black Patch Location: 13	~~0~~	~~Bk~~	N	F/Gr	N	Chrysotile	30	w	n	y	0.005	NC	1.555	1.550							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															70
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
24	RC7	Material: yellow insulation Location: RC 7	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
25	RC6	Material: yellow insulation Location: RC6	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
26	RC9	Material: yellow insulation Location: RC9	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
27	RC3	Material: yellow insulation Location: RC3	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
28	RC4B	Material: yellow insulation Location: RC4B	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
29	RC10	Material: Fibreboard Location: RC10	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
30	RC4C	Material: Fibreboard Location	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
31	RC 10C	Material: Fiberboard Location: RC10C	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
32	RC2	Material: Fiberboard Location: RC2	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
33	RC5 5f	Material: Fiberboard Location: RC5	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
34	RC3	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
35	RC5	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
36	RC6	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
37	RC9	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
38	RC10	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
25	RC10C	Isoboard	0	Y	Y	Gr	Y																100
3	RC13	Isoboard	0	Y	Y	Gr	Y																100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
41	RC5	Material: gypsum; Location: RC5	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
42	RC9	Material: gypsum; Location: RC9	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
43	RC8	Material: gypsum; Location: RC8	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
44	RC13	Material: gypsum; Location: RC13	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
45	RC7	Material: gypsum; Location: RC7	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
46	RC10A	Material: Roof Paper on isoboard; Location: RC10A	0	Blk	N	F/Gn	N	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											60				40
								Anthophylite															
								Actinolite															
47	RC3	Material: Asphalt top of roof; Location: RC3	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
48	RC5	Material: Asphalt top of roof; Location: RC5	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
49	RC6	Material: Asphalt top of roof; Location: ~~Bl~~ RC6	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
50	RC9	Material: Asphalt top of roof; Location: RC9	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
51	RC10	Material: Asphalt Paper top of roof Location: RC10	0	Bk	N	F/Gn	N	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
52	~~RC10A~~ RC10C	Material: Asphalt paper top of roof Location: RC10~~A~~C	0	Bk	N	F/Gn	N	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
53	RC13	Material: Asphalt paper top of roof Location: RC13	0	Bk	N	F/Gn	N	Chrysotile									1		R				
								Amosite															
								Crocidolite															
								Tremolite									60		~~40~~ R				40
								Anthophylite															
								Actinolite															
54	RC11	Material: At deck paper Location: RC11	0	Bk	N	F/Gn	N	Chrysotile									1		R				
								Amosite															
								Crocidolite															
								Tremolite									10		40				50
								Anthophylite															
								Actinolite															
55	RC8	Material: At deck paper Location: RC8	0	Bk	N	F/Gn	N	Chrysotile									1		R				
								Amosite															
								Crocidolite															
								Tremolite									10		40				50
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
56	RC6	Material: At deck paper Location: RC6	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1		~~R~~				30
								Crocidolite											~~L~~				~~20~~
								Tremolite															
								Anthophylite									~~70~~		~~40~~				~~30~~
								Actinolite															~~C~~
57	RC9	Material: At deck paper Location: RC9	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1		R				
								Crocidolite															
								Tremolite															
								Anthophylite									20		40				40
								Actinolite															
58	RC3	Material: At deck paper Location: RC3	0	Bk	N	F/Gr	N	~~Chrysotile~~															
								Amosite									1		R				
								Crocidolite															
								Tremolite															
								Anthophylite									10		40				50
								Actinolite															
59	RC4A	Material: At deck paper Location: RC4A	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1		R				
								Crocidolite															
								Tremolite															
								Anthophylite									20		40				40
								Actinolite															
420260	RC12	Material: At deck paper Location: RC12	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite											~~1~~				
								Crocidolite															
								Tremolite															
								Anthophylite											90				10
								Actinolite															

APPENDIX B

Photographs

View of perimeter of Roof RC1.

Sample 1A - aged black patch at perimeter of roof RC1 contains asbestos.

Sample 5B - aged black patch at perimeter of roof RC5 contains asbestos.

Sample 6B - new black patch at perimeter of roof RC6 contains asbestos.

Sample 8A - corregated new black patch at perimeter of roof RC8 contains asbestos.

Sample 9A - black asphalt tile at perimeter of roof RC9 contains asbestos.

Sample 13C - aged black roofing paper at roof RC13 contains asbestos.

APPENDIX C

Roofing Core Samples

RC1 - Roof Level 1

Total Roof Thickness: 2.5 inches

Roof Membrane:	1.0" Tar and gravel underlain by 2 layers of asphalt membrane/roofing paper
Protection board:	1.0" brown fiberboard
Insulation:	Not observed
Vapor Barrier:	0.5" tar and rosin paper
Deck:	Concrete deck

RC2- Roof Level 2

Total Roof Thickness: 7.0 inches

Roof Membrane:	0.25" Tar and gravel underlain by 2 layers of asphalt membrane/roofing paper
Protection board:	3.0" tan fiberboard
Insulation:	3.0" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	0.5" tar and rosin paper
Deck:	Concrete

RC3 - Roof Level 3

Total Roof Thickness: 11.0 inches

Roof Membrane:	Tar and gravel underlain by 1 layer of asphalt membrane/roofing paper
Protection board:	0.5" yellow insulation underlain by asphalt membrane/roofing paper
Insulation:	Four 2.5-inch layers of light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	rosin paper
Deck:	Concrete deck

RC4A - Roof Level 4A

Total Roof Thickness: 4.0 inches

Roof Membrane:	Tar and gravel underlain by 2 layers of asphalt membrane/roofing paper
Protection board:	0.5" yellow insulation
Insulation:	2.5" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	tar and rosin paper
Deck:	Corrugated metal

RC4B - Roof Level 4B

Total Roof Thickness: 5.5 inches

Roof Membrane:	0.5" Tar and gravel underlain by asphalt membrane/roofing paper
Protection board:	0.5" yellow insulation underlain by 0.5" tar paper
Insulation:	4.0" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	Not observed
Deck:	Metal deck

RC4C - Roof Level 4C

Total Roof Thickness: 3.0 inches

Roof Membrane:	0.5" Tar and gravel underlain by asphalt membrane/roofing paper
Protection board:	1.5" fiberboard
Insulation:	1.5" Gypsum material
Vapor Barrier:	Not observed
Deck:	Gypsum material - broke through roof. Rebar.

RC5 - Roof Level 5

Total Roof Thickness: 5.5 inches

Roof Membrane: Tar and gravel underlain by 2 layers of asphalt membrane/roofing paper

Protection board: 2.0" tank fiberboard

Insulation: 3.0" light yellow polystyrene insulation board separated by mechanically adhered black paper

Vapor Barrier: No observed

Deck: Gypsum material

RC6 - Roof Level 6

Total Roof Thickness: 7.5 inches

Roof Membrane: Tar and gravel underlain by 3 layers of asphalt membrane/roofing paper

Protection board: 0.5" yellow insulation

Insulation: Three 2-inch layers of light yellow polystyrene insulation board separated by mechanically adhered black paper

Vapor Barrier: rosin paper

Deck: Concrete deck

RC7- Roof Level 7

Total Roof Thickness:6.0 inches

Roof Membrane:	Tar and gravel underlain by 2 layers of asphalt membrane/roofing paper
Protection board:	0.5" yellow insulation underlain by asphalt paper
Insulation:	Three 1.75" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	Asphalt tar paper
Deck:	Gypsum material

RC8- Roof Level8

Total Roof Thickness:3.5 inches

Roof Membrane:	0.5" Tar and gravel underlain by 2 layers of asphalt membrane/roofing paper
Protection board:	0.5" yellow insulation underlain by asphalt paper
Insulation:	2.5" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	Asphalt tar paper
Deck:	Gypsum material (depth unknown)

RC9- Roof Level 9

Total Roof Thickness:5.5 inches

Roof Membrane:	0.5" Tar and gravel underlain by 3 layers of asphalt membrane/roofing paper
Protection board:	0.5" yellow insulation underlain by asphalt paper
Insulation:	Two 2.0" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	Asphalt tar paper
Deck:	Gypsum material (depth unknown)

RC10- Roof Level 10

Total Roof Thickness:5.5 inches

Roof Membrane:	0.5" Tar and gravel underlain by 3 layers of asphalt membrane/roofing paper
Protection board:	0.5" fiberboard
Insulation:	Two 2.0" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	Not observed
Deck:	Metal deck

RC10A- Roof Level 10A

Total Roof Thickness: 2.0 inches

Roof Membrane:	60 mm rubber roof
Protection board:	asphalt paper
Insulation:	Two 2.0" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	not observed
Deck:	Steel corrugated deck

RC10B- elevator absent from roof - not sampled

RC10C- Roof Level 10C

Total Roof Thickness: 6.0 inches

Roof Membrane:	0.5" Tar and gravel underlain by 3 layers of asphalt membrane/roofing paper
Protection board:	1.0" fiberboard
Insulation:	Two 2.0" light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	No observed
Deck:	Metal deck and pleat

RC11 - Roof Level 11

Total Roof Thickness: 5.5 inches

Roof Membrane: Tar and gravel underlain by 3 layers of asphalt membrane/roofing paper

Protection board: 0.5" black insulation (saturated former yellow insulation)

Insulation: Two 2-inch layers of light yellow polystyrene insulation board separated by mechanically adhered black paper

Vapor Barrier: rosin paper

Deck: Corrugated metal

RC12 - Roof Level 12

Total Roof Thickness: 5.5 inches

Roof Membrane: Tar and gravel underlain by 3 layers of asphalt membrane/roofing paper

Protection board: 0.5" black insulation (saturated former yellow insulation)

Insulation: Two 2-inch layers of light yellow polystyrene insulation board separated by mechanically adhered black paper

Vapor Barrier: rosin paper

Deck: Corrugated metal

RC13 - Roof Level 13

Total Roof Thickness: 6.5 inches

Roof Membrane:	Tar and gravel underlain by 3 layers of asphalt membrane and roofing paper
Protection board:	0.5" yellow insulation
Insulation:	Three 2-inch layers of light yellow polystyrene insulation board separated by mechanically adhered black paper
Vapor Barrier:	rosin paper
Deck:	Gypsum

ASBESTOS ABATEMENT PLAN
RHODE ISLAND COLLEGE – ROBERTS HALL ROOF
600 MOUNT PLEASANT AVENUE
PROVIDENCE, RHODE ISLAND 02908
PROJECT NO. 201900023

Prepared for

William Starck Architects, Inc.
Attention: Geoffrey Northrup
126 Cove Street
Fall River, MA 02720

Prepared by

NV5 Transactional Services
889 Boston Neck Road, Suite 200
Narragansett, RI 02865
TEL: 401-465-2801

January 17, 2019

Index

I RI State Asbestos Abatement Form ASB-16

II RI State Asbestos Abatement Forms ASB-16A

Abatement Area 1 – Roofing – Approximately 925 square feet of built-up asphalt bitumen roofing.

III RI State Asbestos Abatement Form ASB-16B

IV Attachments:

"Asbestos Abatement Plan" for Rhode Island College - Roberts Hall Roof, 600 Mount Pleasant Avenue, Providence, RI, dated January 16, 2019

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Health

Office of Occupational & Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

1. Building Owner's Name:

Rhode Island College

2. Application Prepared By:

Vincent L. Jacques

RI certification No: AAC-409 PD

Telephone No: (401) 465-2801
(Area code, No., Ext.)

3. Building Owner's Mailing Address and Telephone Number:

Street: 600 Mount Pleasant Avenue

City/Town: Providence, RI

Zip: 02908

Telephone No: 401-456-8779
(Area Code, No., Ext.)

4. Person to be contacted regarding this application:

Name: Mr. Jarred K. Jackson, PM

Telephone No: 401-456-8779
(Area Code, No., Ext.)

---

5. Location where abatement work will be performed:

Name (if applicable): Rhode Island College – Roberts Hall

Street: 600 Mount Pleasant Avenue

City/Town: Providence, RI Zip: 02908

---

6. Is this application being submitted in response to a "Notice of Requirement to Submit an Asbestos Abatement plan"? ( ) Yes (X) No

If Yes, what is the due date for submittal of Abatement plan? _____
(Mo.) (Day) (Yr.)

Evaluation Number on the Notice: _____

---

7. Contractor who will be performing abatement work (if selected):

Name: To be determined R.I. License No.: _____

8. Estimated Starting Date of Abatement Work: TBD - After the plan is approved and all notifications have been made.
(Month) (Day) (Year)

---

9. Estimated Completion Date of Abatement Work: Expected to take two to three days to complete.
(Month) (Day) (Year)

---

10. Type of Asbestos Abatement: **(Check all that apply)**

( ) Removal
( ) Enclosure
( ) Encapsulation
( ) Demolition
( ) Operations and Maintenance Only
(X) Roofing

---

11. Type of Building:

( ) School
( ) Privately Owned Building
(X) Publicly Owned Building
( ) Residence
( ) Other (Specify) _____

---

12. Building Access:

(X) Public Access (≥ 25% of Building Area)
( ) Limited Public Access (< 25% of Building Area)
( ) No Public Access

---

13. Bulk Sample Collection and Analysis:

A). Person collecting bulk samples:

Name: Cynthia Gilchrest RI Certification No.: AAC-0937 IS

B). Sampling Methodology:

( ) EPA AHERA Sampling requirements [40 CFR 763.86].

( ) EPA's Asbestos Containing Material in School Buildings: A Guidance Document (EPA-405/2-78-014) or Guidance for Controlling Asbestos Containing Materials – 1985 Edition (EPA-560-5-85-024)

(X) Other (Specify) Representative Sampling

C). Laboratory performing the analysis of the bulk samples

Name: Asbestos Identification Laboratory Inc. RI Certification No.: AAL-0121

D). Analytical Methodology:

(X) EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples [PLM method only].

( ) Other (Specify) _____

14. Pre-Abatement Air Sample Collection and Analysis:

A). Person collecting pre-abatement air samples:

Name: N/A Affiliation: N/A

B). Laboratory performing analysis of pre-abatement air samples.
Name: N/A RI Certification No.: N/A

C). Methodology used in the collection and analysis of pre-abatement samples:

( ) NIOSH Method 7400 [Most Current Revision]

( ) OSHA 29 CFR 1926.1101 – Appendix A & B

( ) Other (Specify_____

---

15. A. Indicate how the regulated asbestos containing material (RACM) will be removed from the abatement site. If a hauler or broker will be used to transport the RACM to a disposal site, they must also be identified.

To be determined by contractor

B. Provide the name and location of the authorized asbestos waste facility to which the removed material will be transferred for disposal (if known).

To be determined by contractor

---

16. Person designated as compliance monitor for abatement work. **[NOT REQUIRED]**

Name:_____

Affiliation:_____

17. In-Process & Clearance Air Sampling:

A. Describe on an attachment the type, number and location of air samples that will be collected outside the work area during the abatement project.

See AAP

B. Describe on an attachment the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (0.01 fibers per cubic centimeter) is exceeded outside the work area during the abatement project.

See AAP

C. Describe on an attachment the type, number and location of air samples that will be collected as part of the final clearance testing.

See AAP

D. Describe on an attachment the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (0.01 fiber per cubic centimeter) is exceed during final clearance testing.

See AAP

---

18. A separate and fully completed Form ASB-16A must be submitted for each area to be abated. List below the entry in Item 1 from each attached ASB-16A.

Abatement Area 1 - Roofing – Approximately 925 square feet of roofing materials associated with Roberts Hall.

---

19. I certify that this plan was prepared by me and I am responsible for its content.

Signature: Vincent P Gazzier Date 1/17/19 (Month) (Day) (Year)

Affiliation: BOCK AND CLARK ENV. (NVS)

---

20. ASBESTOS ABATEMENT PLAN APPLICATION FEE:

( ) Operation & Maintenance Only	$ 75
( ) Up to One (1) NESHAP Unit	$ 75
(X) Between One (1) & Ten (10) NESHAP Units	$ 300
( ) Between Ten (10) & Fifty (50) NESHAP Units	$ 600
( ) Over Fifty (50) NASHAP Units	$ 900

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Health
Office of Occupational & Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

SUPPLEMENTAL INFORMATION: AREA DESCRIPTION AND PROPOSED REMEDY

BUILDING LOCATION: 600 Mount Pleasant Street, Providence, RI

INSTRUCTIONS: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

(1) Area Location/Identification (Room Name/No., Evaluation Number, etc.):

Area 1

---

(2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

Remove - Approximately 925 square feet of roofing materials associated with Roberts Hall

---

(3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

See AAP and Figure

---

(4) PROPOSED REMEDIES:

(A) Attach a description of the interim Operations and Maintenance Plan that will be implemented in accordance with C.1.2 (b).

See AAP

---

(4) PROPOSED REMEDIES (cont.):

(B) Will any portion of this area be abated by use of B.8 work procedures?

(X) Yes ( ) No

If Yes, indicate below which RACM in this area will be abated by use of the following B.8 work procedures:

B.8.2 & B.8.3	[REMOVAL]	_____
B.8.2 & B.8.4	[ENCAPSULATION]	_____
B.8.2 & B.8.5	[ENCLOSURE]	_____
B.8.6	[DEMOLITION]	_____
B.8.7	[GLOVEBAG]	_____
B.8.8	[ASPHALT ROOFING]	Approximately 925 square feet

of roofing materials associated with Roberts Hall_____

Are you requesting any waivers to the above selected B.8 procedure for any of the abatement activities in this area?

( ) Yes (X) No

If yes, attach a detailed description of the waivers requested you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

(C) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

( ) Yes (X) No

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

(D) Will any RACM remain in this area after abatement?

( ) Yes (X) No ( ) Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b). See AAP

AGENCY USE ONLY

RHODE ISLAND DEPARTMENT OF HEALTH

NOTARIZED CERTIFICATION OF ASBESTOS ABATEMENT PLAN

Facility: Rhode Island College – Roberts Hall Roofing

Address: 600 Mount Pleasant Avenue

City/Town: Providence Zip: 02908 Amendment Phase No: _____

Abatement Plan Written By: Vincent L. Jacques Certification No: AAC-409PD

Summary of specific waivers/variances being requested: _____

Type of Asbestos Abatement ( ) Removal ( ) Enclosure ( ) Encapsulation
( ) Demolition ( ) Glovebag (X) Asphalt Roofing
( ) Other (specify) _____

Is this plan being submitted in response to a Notice of Violation and/or a Notice of Requirement to Submit an Asbestos Abatement Plan? ( ) Yes (X) No

If yes, Indicate Notice/Building Evaluation No(s): _____

Contractor: _____ R.I. License No.: _____

Estimated Starting Date: TBD - After the plan is approved and all notifications have been made.

Pre-Abatement Sampling Information

Bulk Samples Collected By: Cynthia Gilchrest Certification No: AAC-0937 IS

Bulk Samples Analyzed By: Asbestos Identification Laboratory Certification No: AAL-121

Air Samples Analyzed By: N/A Certification No: _____

Clearance Air Sampling Information

Air Samples to be Collected By: Not Applicable

Air Samples to be Analyzed By: Not Applicable Certification No: _____

CERTIFICATION

I certify that: this asbestos abatement plan is prepared and submitted under the provisions of Section 23-24.5-6 of the RI Asbestos Control Act and Parts A and C of the RI Rules and Regulations for Asbestos Control; all abatement/management activities performed in conjunction with this plan must be in compliance with the specifications prescribed in this plan (when approved) and the most current revision of all applicable federal and state regulations; and the asbestos abatement/management activities described in this plan must be performed by a RI licensed asbestos abatement contractor.

Certified by: _____ Title: _____
(Signature of Building Owner or Agent)

_____ Date: _____
(Typed/Printed Name of Certifier)

Subscribed and sworn before me this _____ day of _____, 20_____

_____ My Commission Expires: _____
(Notary Public)

AFFIX NOTARY SEAL HERE

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Appendices:

Appendix A	**Bulk Sampling Results**
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Appendix D	**RI Rules and Regulations for Asbestos Control – 1.14.2 – 1.14.3 and 1.14.8 Work Practice Requirements**

1.0 Introduction

This asbestos abatement plan is being submitted on behalf of:

William Starck Architects, Inc.
Attention: Geoffrey Northrup
126 Cove Street
Fall River, MA 02720

to address the requirements of Part C of the Rhode Island Department of Health's *Rules and Regulations for Asbestos Control* (216-RICR-50-15-1), as amended January 2019. This asbestos abatement plan has been developed for the removal of the asbestos containing materials (ACMs) from roofing associated with Roberts Hall at Rhode Island College, located at 600 Mount Pleasant Avenue in Providence, RI, which is proposed to be replaced. The approximate quantities of the ACMs are summarized in Section 4.0 of this asbestos abatement plan.

The proposed abatement project must be performed in accordance with all applicable local, state and federal regulations concerning asbestos removal, transportation and disposal.

2.0 Bulk Sampling Information (see Section 13 of Form ASB-16)

The ACMs to be abated were characterized by bulk samples collected by Cynthia Gilchrest. of Common Sense Environmental (Rhode Island Department of Health (RIDOH) Certification No AAC-0937 IS) during a survey at the subject property on Wednesday, November 28, 2018.

Samples collected during the survey were submitted to and analyzed by Asbestos Identification Laboratory (AIL) in Woburn, Massachusetts. AIL is accredited through the National Voluntary Laboratory Accreditation Program (NVLAP# 200919-0) and with the RIDOH (AAL – 121). All samples were analyzed in accordance with U.S. Environmental Protection Agency (EPA) recommended protocol ("Follow-up to the Interim Method for Determination of Asbestos in Bulk Insulation Samples" - EPA 600/R-93/116 method “Visual Estimate”) using polarized light microscopy (PLM) supplemented by dispersion staining techniques.

A total of sixty-five (65) samples were collected and submitted for analysis. Appendix B contains copies of the analytical results by AIL, indicating the asbestos content of the material targeted for abatement.

3.0 Air Sampling

3.1 Pre-abatement Air Sampling (refer to Section 14, Form ASB-16)

As this abatement involves the exterior removal of asbestos containing roofing materials, pre-abatement air samples were not collected.

3.2 Contiguous Area Sampling During Abatement

As this abatement involves the exterior removal of asbestos containing roofing materials, in-process air samples during abatement will not be required.

Personnel air monitoring of Asbestos Abatement Workers, in accordance with OSHA 29 CFR 1926.1101 (formally OSHA 29 CFR 1926.58(f)), shall be conducted throughout the entirety of the asbestos abatement project by the chosen contractor.

3.3 Clearance Air Testing

The proposed project consists of one (1) abatement area associated with the roof of Roberts Hall at Rhode Island College. As such, it is proposed that personnel air monitoring of Asbestos Abatement Workers, which demonstrates compliance with the provisions of OSHA 29 CFR 1926.1101 (formerly OSHA 29 CFR 1926.58(f)), be used in lieu of the clearance air sampling requirements contained in Section 1.17.3 of 216-RICR-50-15-1.

NV5 (previously branded as Bock and Clark) recommends that a final visual clearance inspection be completed of the roof area, after the abatement has been completed, to ensure that the ACMs associated with this plan have been properly abated.

4.0 Description of Abatement Area

The proposed project consists of roofing materials removal from Roberts Hall at Rhode Island College.

- **Abatement Area 1 – Roofing** – Approximately 925 square feet of roofing materials associated with Roberts Hall (see Figure and photos).

5.0 Interim Operations and Maintenance Program

The O&M Program is designed to (1) clean up asbestos fibers previously released, (2) prevent future release by minimizing ACM disturbance or damage, and (3) monitor the condition of the ACM. The program should be implemented if the building is to be occupied or utilized and it should continue until all ACM is removed or the building is demolished. The program should be implemented as soon as possible.

An Asbestos O&M Program Coordinator should be first appointed and trained. The Asbestos Program Manager shall have overall responsibility for implementing and documenting the program. He/she is directly responsible to upper management and must be knowledgeable about the medical and control aspects of asbestos. He or she may serve as coordinator or delegate that responsibility to the facilities manager or other appropriate employee. The manager of building maintenance and the custodial staff supervisor are the other key participants for an effective program.

An effective O & M program for these types of materials should have the following sections:

Documentation, Education, and Training

The O & M Program coordinator should:

- Record the exact location of all asbestos containing materials on building documents (plans, specifications, and drawings).

- Educate building staff & occupants, as well as maintenance and custodial workers, about the location of ACMs, and caution them about disturbing it.

- Educate building staff & occupants, as well as maintenance and custodial workers, on the procedures for alerting outside service personnel and others to the presence and location of ACMs, including the Warning Label provisions of 40 CFR 763.95; and caution them about disturbing it.

- Train maintenance and custodial workers to handle ACM safely.

- The training program shall be in compliance with OSHA regulation 29 CFR 1926.1101 and shall meet the maintenance employee training requirements of the Asbestos Hazard Emergency Response Act (AHERA). The training program shall be presented and include the following;

Level 1 - Awareness Training

This level is for maintenance personnel involved in cleaning and simple maintenance tasks where ACBM may be accidentally disturbed. Such training may range from two to eight hours and include topics such as:

- Background information on asbestos

- Health effects of asbestos

- Worker protection programs

- Location of ACBM in the building

- Recognition of ACBM damage and deterioration

- Review of the buildings O&M plan/program

- Proper response to fiber release episodes

Level 2 - Special O&M Training

Level 2 is for maintenance personnel involved in regular maintenance and asbestos material repair tasks. Such activities will be outsourced to a licensed asbestos contractor.

Level 3 - Abatement Worker Training

Level 3 is for workers who may conduct asbestos abatement. No on-site personnel will perform asbestos abatement.

Under this asbestos O&M program, all activities that are likely to or knowingly will disturb ACBM will be outsourced to a qualified and licensed abatement firm. If an independent contractor such as an electrician or plumber performs activities that may

impact ACBM the independent contractor must be trained in dealing with ACBM or must arrange for a licensed asbestos contractor to handle any ACBM disturbed.

Maintenance

The O & M Program coordinator should:

- Ensure that recommended procedures and safety precautions will be followed before authorizing construction and maintenance work involving asbestos containing materials. Specifically, containment barriers should be erected around the construction and maintenance work area and workers should wear coveralls as well as respirators. All tools should be equipped with HEPA-filtered vacuum devices.

The maintenance staff should:

- Clear all construction, renovation, maintenance, or equipment repair work with the O & M Program coordinator in advance.

- Avoid removing, sanding, or stripping floor tile and associated mastics containing asbestos. If tiles are removed, do not sand asbestos mastic (tile glue) remaining on the floor.

Periodic Inspection

Building inspectors should:

- Each area known to contain ACBM should be visually inspected by the Asbestos Program Manager trained designee, him or herself, or a Consultant semi-annually. The results of this inspection shall be recorded on an ACBM Condition Form. All forms shall be transmitted to the Asbestos Program Manager. The purpose of the inspection is to ensure that ACBM condition has not deteriorated significantly during the preceding six-month period. If the condition of any ACBM has deteriorated since the last inspection, the Asbestos Program Manager shall be notified as soon as possible. The Asbestos Program Manager shall then investigate to determine if remedial action is required to prevent a health hazard.

Custodial and maintenance staff should:

- Report any ACM damage to the O & M Program manager immediately.

Record Keeping

The Asbestos Program Manager shall maintain the following documents and records;

A. medical exam records, if required, (in accordance with 29 CFR 1910.1001(m)(3) and 1926.1101 or other applicable OSHA regulations) for all employees engaged in asbestos work or who may have been exposed to

asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc at the facility,

B. all sampling results, including the dates, analytical methods used, number, duration, and results from the samples taken,

C. Asbestos Job Notifications, the identity of employees and other parties who are or were involved in those jobs, and all other records relating to asbestos work at the facility,

D. Asbestos Condition forms and all other records of inspections of asbestos locations,

E. all Waste Origin - Waste Disposal forms for the disposal of asbestos material,

F. the names of all contractors and sub-contractors performing asbestos work, the date and duration of such work and all documents and records relating to such work,

G. all documents relating to the HEPA vacuum, HEPA vacuum filter replacement dates, and HEPA vacuum waste disposal dates,

H. all correspondence regarding ACBM,

I. all correspondence with any federal, state or local agencies regarding asbestos,

J. all asbestos related employee training records, and,

K. all other documents and records relating to asbestos.

Copies of each document and record shall be maintained for at least 30 years. These copies shall be retained even if the facility is sold.

Records shall be made available to appropriate OSHA representatives in accordance with 29 CFR 1910.1001 (m)(5) and 1926.1101 (n)(5) or other applicable federal, state or local laws. Sampling results and medical records shall be made available to appropriate affected employees, former employees and designated representatives in accordance with 29 CFR 1910.1001 (m)(5) and 1926.1101 or other applicable federal, state or local laws.

6.0 Specific Abatement Proposal

This abatement plan has been prepared for the removal of the ACM specified in Section 4.0 of this abatement plan, which has been developed for roofing materials along Roberts Hall at Rhode Island College, located at 600 Mount Pleasant Avenue in Providence, RI. The ACM locations are depicted in the Figure associated with this plan.

An asbestos contractor licensed in the State of Rhode Island must perform all asbestos abatement work, and all work must be performed in accordance with all applicable local, state, and federal regulations.

Asbestos removal will be performed following the appropriate approval of this plan by the RI Department of Health (RIDOH). The contractor, provided with the appropriate notifications, will then perform the asbestos abatement. It is anticipated that the removal project will take approximately two to three days to complete.

The ACM to be abated in Area 1 will be completed in accordance with Section 1.14.8 of the RI Rules and Regulations for Asbestos Control, copies of which have been attached to this plan.

7.0 Criteria for Selection of Contractor

An asbestos abatement contractor has not been chosen for this project at this time. The chosen contractor for this project must be licensed by the State of Rhode Island in accordance with Section 1.7.4 A of the Rules and Regulations for Asbestos Control and must maintain a Contractor's License. The contractor, once chosen, must file appropriate notification with the RIDOH.

8.0 Authorized Disposal Facility

The contractor will select the authorized asbestos waste facility. The chosen contractor will forward the name of the approved disposal site to the RI Department of Health.

9.0 Methods for Insuring Compliance

See Sections 4.B and 4.D of Form ASB-16A.

10.0 Monitoring Compliance

The property owner representative will monitor compliance with the asbestos abatement plan.

11.0 Monitoring Requirements (see Section 17 A-D of Form ASB-16)

11.1 In-Process Air Sampling During Abatement

As this abatement involves the exterior removal of asbestos containing roofing materials, in-process air samples during abatement will not be required.

Personnel air monitoring of Asbestos Abatement Workers, in accordance with OSHA 29 CFR 1926.1101 (formally OSHA 29 CFR 1926.58(f)), shall be conducted throughout the entirety of the asbestos abatement project by the chosen contractor.

11.2 Clearance Inspection

The proposed project consists of one (1) abatement area associated with the roof of Roberts Hall at Rhode Island College. As such, it is proposed that

personnel air monitoring of Asbestos Abatement Workers, which demonstrates compliance with the provisions of OSHA 29 CFR 1926.1101 (formerly OSHA 29 CFR 1926.58(f)), be used in lieu of the clearance air sampling requirements contained in Section 1.17.3 of 216-RICR-50-15-1.

NV5 (previously branded as Bock and Clark) recommends that a final visual clearance inspection be completed of the roof area, after the abatement has been completed, to ensure that the ACMs associated with this plan have been properly abated.

12.0 Confirmation of Proper Asbestos Disposal

The property owner representative shall obtain confirmation of proper asbestos disposal from the contractor and provide copies to the RI Department of Health in accordance with Section 1.17.3 B of the *RI Rules and Regulations for Asbestos Control.*

APPENDIX A

Bulk Sampling Analytical Results

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 38111

NVLAP®
Lab Code: 200919-0

December 10, 2018

Cynthia Gilchrest
Common Sense Environmental, Inc.
38 Elm St.
New Bedford, MA 02740

Project Number:
Project Name: Roberts Hall Roof- RI College, Providence, RI
Date Sampled: 2018-12-02
Work Received: 2018-12-06
Work Analyzed: 2018-12-07

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Cynthia Gilchrest,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Cynthia Gilchrest for your business.

Michael Manning
Owner/Director

December 10, 2018

Cynthia Gilchrest
Common Sense Environmental, Inc.
38 Elm St.
New Bedford, MA 02740

Project Number:

Project Name: Roberts Hall Roof- RI College, Providence, RI

Date Sampled: 2018-12-02

Work Received: 2018-12-06

Work Analyzed: 2018-12-07

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1A / 420195	Aged Patch	1	black	Cellulose 20 Non-Fibrous 75	Detected Chrysotile 5
1B / 420196	Black Patch Dumpy	1	black	Non-Fibrous 100	None Detected
2A / 420197	Grey Tile	2	black	Cellulose 20 Non-Fibrous 80	None Detected
2B / 420198	Blk Patch	2	black	Non-Fibrous 100	None Detected
2C / 420199	Silver Alligator	2	silver	Non-Fibrous 100	None Detected
2C1 / 420200	Silver Alligator	2	silver	Non-Fibrous 100	None Detected
3A / 420201	Blk Patch	3	black	Non-Fibrous 100	None Detected
3B / 420202	Asphalt Tile	3	black	Fiberglass 5 Cellulose 15 Non-Fibrous 80	None Detected
3B1 / 420203	Asphalt Tile	3	black	Cellulose 20 Non-Fibrous 80	None Detected
3C / 420204	Aged BK Patch	3	black	Non-Fibrous 100	None Detected
3E / 420205	Brown Tile	3	black	Fiberglass 30 Non-Fibrous 70	None Detected
4B1 / 420206	Aged Black Patch	4	black	Non-Fibrous 100	None Detected
4B2 / 420207	Grey Asphalt Tile	4	black	Fiberglass 30 Non-Fibrous 70	None Detected
4B3 / 420208	Black Patch Bumpy	4	black	Fiberglass 20 Non-Fibrous 80	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
5A 420209	Grey Asphalt Tile	5	black	Cellulose 20 Non-Fibrous 80	None Detected
5B 420210	Aged Black Patch	5	black	Fiberglass 5 Cellulose 15 Non-Fibrous 70	**Detected** **Chrysotile 10**
5C 420211	New Patch	5	black	Non-Fibrous 100	None Detected
6A 420212	Brown Asphalt Tile	6	black	Fiberglass 20 Non-Fibrous 80	None Detected
6B 420213	New Patch	6	black	Non-Fibrous 70	**Detected** **Chrysotile 30**
6C 420214	Aged Black Patch	6	black	Non-Fibrous 100	None Detected
8A 420215	Corrugated Black	8	black	Non-Fibrous 70	**Detected** **Chrysotile 30**
8B 420216	Black Patch Aged	8	black	Fiberglass 40 Non-Fibrous 60	None Detected
8C 420217	Brown Asphalt Tile	8	black	Fiberglass 40 Non-Fibrous 60	None Detected
9A 420218	Black Asphalt Tile	9	black	Cellulose 18 Non-Fibrous 80	**Detected** **Chrysotile 2**
10B 420219	Asphalt Tile Gray		black	Fiberglass 40 Non-Fibrous 60	None Detected
12A 420220	Green Asphalt Tile	12	black	Cellulose 20 Non-Fibrous 80	None Detected
12B 420221	Silver Alligator	12	silver	Non-Fibrous 100	None Detected
12C 420222	NO SAMPLE	NO SAMPLE			Not Analyzed
13C 420223	Aged Black Paper	13	black	Non-Fibrous 70	**Detected** **Chrysotile 30**
RC7 420224	Yellow Insulation	RC7	yellow	Fiberglass 100	None Detected
RC6 420225	Yellow Insulation	RC6	yellow	Fiberglass 100	None Detected
RC9 420226	Yellow Insulation	RC9	yellow	Fiberglass 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
RC3 420227	Yellow Insulation	RC3	yellow	Fiberglass 100	None Detected
RC4B 420228	Yellow Insulation	RC4B	yellow	Fiberglass 100	None Detected
RC10 420229	Fiberboard	RC10	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC4C 420230	Fiberboard		gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC10C 420231	Fiberboard	RC10C	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC2 420232	Fiberboard	RC2	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC5 420233	Fiberboard	RC5	gray	Mineral Wool 20 Cellulose 40 Non-Fibrous 40	None Detected
RC3 420234	Iso Board		yellow	Non-Fibrous 100	None Detected
RC5 420235	Iso Board		yellow	Non-Fibrous 100	None Detected
RC6 420236	Iso Board		yellow	Non-Fibrous 100	None Detected
RC9 420237	Iso Board		yellow	Non-Fibrous 100	None Detected
RC10 420238	Iso Board		yellow	Non-Fibrous 100	None Detected
RC10C 420239	Iso Board		yellow	Non-Fibrous 100	None Detected
RC13 420240	Iso Board		yellow	Non-Fibrous 100	None Detected
RC5 420241	Gypsum	RC5	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC9 420242	Gypsum	RC9	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC8 420243	Gypsum	RC8	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC13 420244	Gypsum	RC10	gray	Cellulose 2 Non-Fibrous 98	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
RC7 / 420245	Gypsum	RC7	gray	Cellulose 2 Non-Fibrous 98	None Detected
RC10A / 420246	Roof Paper on Iso Board	RC10A	black	Cellulose 60 Non-Fibrous 40	None Detected
RC3 / 420247	Asphalt Top of Roof	RC3	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC5 / 420248	Asphalt Top of Roof	RC5	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC6 / 420249	Asphalt Top of Roof	RC6	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC9 / 420250	Asphalt Top of Roof	RC9	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC10 / 420251	Asphalt Paper Top of Roof	RC10	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC10C / 420252	Asphalt Paper Top of Roof	RC10C	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC13 / 420253	Asphalt Paper Top of Roof	RC13	black	Fiberglass 60 Non-Fibrous 40	None Detected
RC11 / 420254	At Deck Paper	RC11	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC8 / 420255	At Deck Paper	RC8	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC6 / 420256	At Deck Paper	RC6	black	Fiberglass 70 Non-Fibrous 30	None Detected
RC9 / 420257	At Deck Paper	RC9	black	Fiberglass 20 Cellulose 40 Non-Fibrous 40	None Detected
RC3 / 420258	At Deck Paper	RC3	black	Fiberglass 10 Cellulose 40 Non-Fibrous 50	None Detected
RC4A / 420259	At Deck Paper	RC4A	black	Fiberglass 20 Cellulose 40 Non-Fibrous 40	None Detected
RC12 / 420260	At Deck Paper	RC12	black	Cellulose 90 Non-Fibrous 10	None Detected

Client: Common Sense Environmental, Inc.
Address: 38 Elm St, New Bedford, MA 02740
Project Site: Roberts Hall Roof - RI College, Providence, RI
Phone / email address: 508-726-0902
Cynthia@CommonSenseEnv.com
Contact: Cynthia Gilchrest
Relinquish by/date: 12/2/18
Received by/date: Elena Beatis 12/6/18
# of Samples Received: 166

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165-U New Boston St.
Suite 271
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Date Sampled: 11/28/2018

BATCH# 38111

Rev. 6/14

Turnaround Time		Sample Method	
	Less 3 Hrs	X	Bulk
	Same Day		Soil
	Next Day		Wipe
X	Two Day		Point Count

Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Anayzed By: [illegible]
Date: 12/7/18

Temp in Celcius = 25

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
420195	1A	Material: Aged Patch; Location: 1	Ø	Bk	N	F/Gn	N	Chrysotile	S	W	N	+	0.005	NC	1.555	1.550			R				75
								Amosite															
								Crocidolite															
								Tremolite											20				
								Anthophylite															
								Actinolite															
96	1B	Material: Black patch bumpy; Location: 1	Ø	Bk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
97	2A	Material: Gray tile; Location: 2	Ø	Bk	N	F/Gn	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															80
								Anthophylite											20				
								Actinolite															

DNA

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
98	2B	Material: Blk Patch Location: 2	0	Blk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
99	2C	Material: Silver Alligator Location: 2	0	S	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
200	2C7	Material: Silver Alligator Location: 2	0	S	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
01	3A	Material: Blk Patch Location: 3	0	Blk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
02	3B	Material: Asphalt tile Location: 3	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									I		R				
								Crocidolite															
								Tremolite															
								Anthophylite									5		15				80
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
83	3B1	Material: Asphalt tile Location: 3	0	Bk	N	F/Gr	N	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											20				80
								Anthophylite															
								Actinolite															
84	3C	Material: Aged bk patch Location: 3	0	Bk	Y	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
85	3E	Material: Brown Tile Location: 3	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite															
								Anthophylite									30						70
								Actinolite															
86	4B1	Material: Aged Black patch Location: 4	0	Bk	Y	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
87	4B2	Material: gray asphalt tile Location: 4	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite															
								Anthophylite									30						70
								Actinolite															
88	4B3	Black patch bumpy 4	0	Bk	N	F/Gr	N										1/20						80

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
09	5A	Material: Grey Asphalt tile Location: 5	0	Bk	Y	Gn	N	Chrysotile	~~40~~	~~w~~	~~n~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophylite											20				
								Actinolite															80
10	5B	Material: aged Black Patch Location: 5	0	Bk	N	F/Gn	N	Chrysotile	10	w	n	+	0.005	NC	1.555	1.550							
								Amosite															
								Crocidolite									1		R				
								Tremolite															
								Anthophylite									5		15				
								Actinolite															70
11	5C	Material: New Patch Location: 5	0	Bk	Y	Gn	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															
								Actinolite															100
12	6A	Material: Brown Asphalt tile Location: 6	0	Bk	N	F/Gn	N	Chrysotile	~~5~~	~~w~~	~~n~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite															
								Crocidolite									1						
								Tremolite															
								Anthophylite									20						
								Actinolite															80
13	6B	Material: New Patch Location: 6	0	Bk	Y	Gn	N	Chrysotile	30	w	n	+	0.005	NC	1.555	1.550							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															
								Actinolite															70

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
14	6C	Material: Aged Black Patch; Location: 6	0	Blk	N	F/Gn	N	Chrysotile	~~30~~	~~w~~	~~u~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite								R							
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
15	8A	Material: Corrugated Black; Location: 8	0	Blk	N	F/Gn	N	Chrysotile	30	w	u	+	0.005	NC	1.555	1.550							
								Amosite									~~I~~						
								Crocidolite															
								Tremolite									~~40~~ R						70
								Anthophylite															
								Actinolite															
16	8B	Material: Black patch aged; Location: 8	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite															
								Crocidolite									I						
								Tremolite															60
								Anthophylite									40						
								Actinolite															
17	8C	Material: Brown Asphalt Tile; Location: 8	0	Blk	N	F/Gn	N	Chrysotile	~~10~~	~~w~~	~~u~~	~~+~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite							R								
								Crocidolite									I		R				
								Tremolite															60
								Anthophylite									40		~~10~~ R				
								Actinolite															
18	9A	Material: Black Asphalt Tile; Location: 9	0	Blk	N	F/Gn	N	Chrysotile	~~20~~ 20	w	u	+	0.005	NC	1.555	1.550							
								Amosite									~~I~~		R				
								Crocidolite															
								Tremolite									R						80
								Anthophylite									~~30~~		18				
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
19	16A	Material: Asphalt Tile gray Location	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									2						
								Crocidolite															
								Tremolite															
								Anthophylite									40						60
								Actinolite															
20	12A	Material: Gray Asphalt tile Location: 12	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophylite											20				80
								Actinolite															
21	12B	Material: Silver Alligator Location: 12	0	S	Y	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															100
								Actinolite															
22	12C	Material: Black Asphalt tile Location: 12	~~0~~	~~Bk~~	~~N~~	~~F/Gr~~	~~N~~	Chrysotile	~~30~~	~~w~~	~~n~~	~~y~~	~~0.005~~	~~NC~~	~~1.555~~	~~1.550~~							
								Amosite															
								Crocidolite			R												
								Tremolite															
								Anthophylite														~~70~~	
								Actinolite															
23	13C	Material: Aged Black Patch Location: 13	~~0~~	~~Bk~~	N	F/Gr	N	Chrysotile	30	w	n	y	0.005	NC	1.555	1.550							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophylite															70
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
24	RC7	Material: yellow insulation Location: RC 7	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
25	RC6	Material: yellow insulation Location: RC6	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
26	RC9	Material: yellow insulation Location: RC9	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
27	RC3	Material: yellow insulation Location: RC3	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															
28	RC4B	Material: yellow insulation Location: RC4B	0	Y	Y	F	Y	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									100						
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
29	RC10	Material: Fibreboard Location: RC10	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
30	RC4C	Material: Fibreboard Location	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
31	RC 10C	Material: Fiberboard Location: RC10C	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
32	RC2	Material: Fiberboard Location: RC2	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															
33	RC5 5f	Material: Fiberboard Location: RC5	Ø	Gy	N	F/Gn	Y	Chrysotile															
								Amosite										I	R				
								Crocidolite															
								Tremolite										20	40				40
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
34	RC3	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
35	RC5	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
36	RC6	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
37	RC9	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
38	RC10	Material: Isoboard Location	0	Y	Y	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophylite															
								Actinolite															
25	RC10C	Isoboard	0	Y	Y	Gr	Y																100
3	RC13	Isoboard	0	Y	Y	Gr	Y																100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
41	RC5	Material: gypsum; Location: RC5	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
42	RC9	Material: gypsum; Location: RC9	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
43	RC8	Material: gypsum; Location: RC8	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
44	RC13	Material: gypsum; Location: RC13	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															
45	RC7	Material: gypsum; Location: RC7	0	Gy	N	F/Gn	Y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											2				98
								Anthophylite															
								Actinolite															

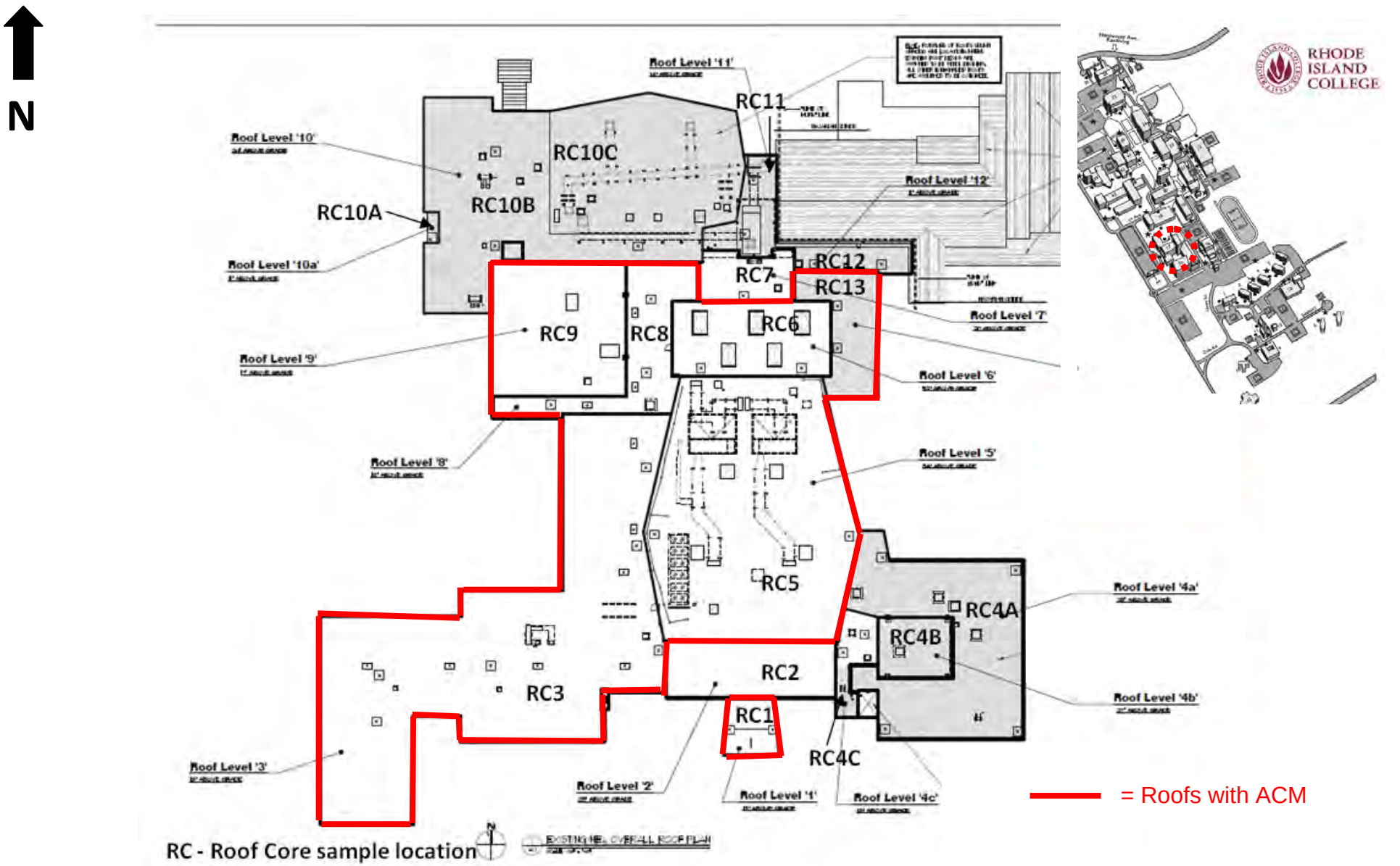
Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
46	RC10A	Material: Roof Paper on isoboard; Location: RC10A	0	Blk	N	F/Gn	N	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											60				40
								Anthophylite															
								Actinolite															
47	RC3	Material: Asphalt top of roof; Location: RC3	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
48	RC5	Material: Asphalt top of roof; Location: RC5	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
49	RC6	Material: Asphalt top of roof; Location: ~~Bl~~ RC6	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
50	RC9	Material: Asphalt top of roof; Location: RC9	0	Blk	N	F/Gn	N	Chrysotile															
								Amosite									1						
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
51	RC10	Material: Asphalt Paper top of roof Location: RC10	0	Bk	N	F/Gn	N	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
52	~~RC10A~~ RC10C	Material: Asphalt paper top of roof Location: RC10~~A~~C	0	Bk	N	F/Gn	N	Chrysotile									1						
								Amosite															
								Crocidolite															
								Tremolite									60						40
								Anthophylite															
								Actinolite															
53	RC13	Material: Asphalt paper top of roof Location: RC13	0	Bk	N	F/Gn	N	Chrysotile									1		R				
								Amosite															
								Crocidolite															
								Tremolite									60		~~40~~ R				40
								Anthophylite															
								Actinolite															
54	RC11	Material: At deck paper Location: RC11	0	Bk	N	F/Gn	N	Chrysotile									1		R				
								Amosite															
								Crocidolite															
								Tremolite									10		40				50
								Anthophylite															
								Actinolite															
55	RC8	Material: At deck paper Location: RC8	0	Bk	N	F/Gn	N	Chrysotile									1		R				
								Amosite															
								Crocidolite															
								Tremolite									10		40				50
								Anthophylite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
56	RC6	Material: At deck paper Location: RC6	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1		~~R~~				30
								Crocidolite											~~L~~				~~20~~
								Tremolite															
								Anthophylite									~~70~~		~~40~~				~~30~~
								Actinolite															~~C~~
57	RC9	Material: At deck paper Location: RC9	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1		R				
								Crocidolite															
								Tremolite															
								Anthophylite									20		40				40
								Actinolite															
58	RC3	Material: At deck paper Location: RC3	0	Bk	N	F/Gr	N	~~Chrysotile~~															
								Amosite									1		R				
								Crocidolite															
								Tremolite															
								Anthophylite									10		40				50
								Actinolite															
59	RC4A	Material: At deck paper Location: RC4A	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite									1		R				
								Crocidolite															
								Tremolite															
								Anthophylite									20		40				40
								Actinolite															
420260	RC12	Material: At deck paper Location: RC12	0	Bk	N	F/Gr	N	Chrysotile															
								Amosite											~~1~~				
								Crocidolite															
								Tremolite															
								Anthophylite											90				10
								Actinolite															

APPENDIX B

Figure



Common Sense Environmental, Inc.
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New Bedford, MA 02740
508-858-5606

Figure 1 – Site Locus
Roberts Hall - Rhode Island College
Providence, RI
December 2018

APPENDIX C

Photos

View of perimeter of Roof RC1.

Sample 1A - aged black patch at perimeter of roof RC1 contains asbestos.

Sample 5B - aged black patch at perimeter of roof RC5 contains asbestos.

Sample 6B - new black patch at perimeter of roof RC6 contains asbestos.

Sample 8A - corregated new black patch at perimeter of roof RC8 contains asbestos.

Sample 9A - black asphalt tile at perimeter of roof RC9 contains asbestos.

Sample 13C - aged black roofing paper at roof RC13 contains asbestos.

APPENDIX D

Rhode Island Rules and Regulations For Asbestos Control – 1.14.2 – 1.14.3 and 1.14.8: Work Practice Requirements

1.13 WORKER AIR MONITORING

The Asbestos Contractor must provide representative air monitoring, in accordance with OSHA 29 C.F.R. § 1926.1101(f) incorporated by reference at § 1.2(A) of this Part, for Asbestos Supervisors and Asbestos Workers during asbestos abatement activities. Affected Asbestos Supervisors, Asbestos Workers, and agents of the Asbestos Contractor must be notified of the results of air monitoring in accordance with OSHA 29 C.F.R. § 1926.1101(f)(5) incorporated by reference at § 1.2(A) of this Part.

1.14 WORK PRACTICE REQUIREMENTS

1.14.1 Applicability

Any Asbestos Contractor that engages in any Asbestos Abatement Project that involves greater than ten (10) linear feet (three (3) meters) of pipe covered or coated with asbestos containing material or twenty five (25) square feet (three (3) square meters) of asbestos containing material used to cover or coat any surface other than pipe shall comply with the work practices contained in § 1.14 of this Part and any additional work practice requirements contained in the asbestos abatement plan approved for that project by the Director of Health. Specific requirements for Category I and Category II Nonfriable ACM that is not Regulated Asbestos Containing Material (RACM) are contained in §§ 1.14.8 through 1.14.10 of this Part.

1.14.2 General Requirements for Removal, Encapsulation and/or Enclosure of Regulated Asbestos Containing Material (RACM)

A. Barriers to isolate contaminated from uncontaminated areas shall be constructed of polyethylene sheeting attached securely in place.

B. All surfaces shall be wet cleaned of dust or debris. Wet cleaning of contaminated items shall be performed if necessary. All movable objects shall be removed from the work area. All nonmovable objects in the work area shall be covered with 6-mil polyethylene sheeting secured in place. All openings or penetrations between the work area and uncontaminated areas shall be sealed, including windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers and skylights.

C. Floor sheeting shall consist of two (2) layers of 6-mil polyethylene sheeting. Floor sheeting shall extend up sidewalls at least twelve (12) inches and be sized to minimize seams. No seams shall be located at wall/floor joints. Floors being abated of resilient floor coverings and associated mastics/adhesives shall be exempt from this requirement.

D. Wall sheeting shall consist of two (2) layers of 4-mil polyethylene sheeting. It shall be installed to minimize joints and shall extend beyond wall/floor joint at least twelve (12) inches. No seams shall be located at wall/wall joints.

E. A worker decontamination enclosure system, consisting of a clean room, shower room and equipment room, each separated from each other and from the work area by airlocks and accessible through doorways protected with two (2) overlapping polyethylene sheets, shall be provided in accordance with OSHA 29 C.F.R. § 1926.1101(j) incorporated by reference at § 1.2(A) of this Part. Procedures for the utilization of this system shall be established which prevent contamination of areas outside the work area.

F. All HVAC equipment in or passing through the work area shall be shut down and locked out. All intake and exhaust openings, as well as any seams in system components shall be sealed with 6-mil polyethylene sheeting and/or tape. All system filters shall be replaced after the abatement and disposed of as asbestos waste. The ventilation system ductwork interiors shall be decontaminated whenever necessary.

G. Posting

1. Warning signs in accordance with OSHA 29 C.F.R. § 1926.1101(k)(7) incorporated by reference at § 1.2(A) of this Part shall be displayed at all approaches to any location where airborne fiber levels can be expected to exceed the Indoor Non-Occupational Air Exposure Standard established by § 1.5 of this Part.

2. Warning signs to advise the public of the location(s) within the building where any asbestos abatement activity is in progress shall be posted at all building entrances and at least one other conspicuous place per floor. These signs shall be of the same dimensions as the Warning/Danger signs required in § 1.14.2(G)(1) of this Part.

3. Warning signs shall be posted on vehicles used to transport Asbestos Containing Waste Materials during loading and unloading of the waste.

H. Clean-up procedures using HEPA vacuuming and wet cleaning techniques shall be performed following abatement. Wet cleaning shall be followed by HEPA vacuuming after surfaces have been allowed to dry. The sequence of wet cleaning and vacuuming shall be repeated at twenty-four (24) hour intervals until no visible residue is observed in the work area.

I. Negative pressure ventilation units with HEPA filtration, in sufficient number to provide one (1) workplace air change every fifteen (15) minutes, shall be operated continuously from the time of barrier construction through the time

acceptable final clearance air-monitoring results are obtained. These units shall exhaust filtered air to the outside of the building. Filtered air shall not be exhausted to uncontaminated interior spaces.

J. All Asbestos Containing Waste Materials shall be adequately wetted before being placed into containers for disposal.

K. Asbestos Containing Waste Materials shall be placed in impermeable containers for disposal. Metal or fiber drums with locking-ring tops shall be used when asbestos waste contains sharp edged components. Double polyethylene bags of at least 6-mil thickness and which can be securely sealed may be used for waste. Large components or structural members may be removed intact and contained in leak-tight wrapping, equivalent to at least two (2) layers of 6-mil polyethylene sheeting, secured with tape for disposal.

L. All containers, bags, drums and wrapped components shall be labeled so that labels have the appearance of or are constructed in accordance with USDOT 49 C.F.R. 172, Subpart E incorporated by reference at § 1.2(D) of this Part and OSHA 29 C.F.R. § 1926.1101(k)(8) incorporated by reference at § 1.2(A) of this Part. Each container, bag, drum or wrapped component shall also be labeled or tagged with the name and license number of the asbestos contractor generating the waste, as well as the asbestos abatement project number and location at which the waste was generated.

M. Storage of asbestos waste containers awaiting transport to an authorized disposal facility shall be in a secured location to prevent access by unauthorized personnel.

N. Transport and disposal of asbestos waste shall be in accordance with the provisions of Appendix D to 40 C.F.R. 763, Subpart E incorporated by reference at § 1.2(E) of this Part and USDOT 49 C.F.R. § 173.1300 incorporated by reference at § 1.2(F) of this Part.

O. Disposal of Asbestos Containing Waste Materials. All Asbestos Containing Waste Materials shall be deposited as soon as is practical by the waste generator at:

1. A waste disposal site operated in accordance with the provisions of 40 C.F.R. § 61.154, or equivalent regulations promulgated by a state or local NESHAP designee; or

2. An EPA-approved site that converts RACM and Asbestos Containing Waste Materials into nonasbestos (asbestos-free) material according to the provisions of 40 C.F.R. § 61.155.

P. Access to work areas shall be controlled and posting requirements shall remain in effect until compliance with the air exposure standard has been verified by procedures outlined below:

1. Samples shall be collected and analyzed in accordance with the procedures specified by NIOSH Method 7400 (most current Revision) for asbestos fibers in air or equivalent method;

2. Air volumes shall be sufficient to accurately determine fiber concentrations to 0.01 fibers/ cubic centimeter of air (f/cc) for fibers greater than five (5) microns in length or 300 nanograms per cubic meter. A minimum air volume of 1000 liters shall be sampled;

3. Air sampling shall be conducted in representative locations with portable fans circulating air to simulate actual use conditions;

4. An acceptable airborne fiber concentration, as established by clearance air monitoring shall not exceed 0.01 f/cc for fibers greater than five (5) microns in length or 300 nanograms per cubic meter; and

5. Air sampling shall be conducted by a representative of the building owner who is not subject to the control or supervision of the Asbestos Contractor for the asbestos abatement plan.

6. Notwithstanding the requirements contained in § 1.14.2(P) of this Part above, control of access and posting requirements for buildings subject to the AHERA regulations shall remain in effect until compliance with §§ 1.17.3(A)(5) through (8) of this Part has been demonstrated.

1.14.3 Specific Requirements for Removal of Regulated Asbestos Containing Material (RACM)

A. All RACM shall be adequately wetted prior to removal. In addition, all RACM exposed during cutting and disjoining operations shall be adequately wet and all RACM shall be kept adequately wet during stripping operations.

B. Components shall be removed intact or in large sections whenever possible and carefully lowered to the floor.

C. RACM shall be removed in small sections and containerized when adequately wet. At no time shall material be allowed to accumulate or become dry. Structural components shall be adequately wetted prior to being contained in leak-tight wrapping for disposal.

D. Material shall not be dropped or thrown to the floor level. For materials located at heights greater than fifty (50) feet above the floor, a dust-tight, enclosed chute shall be constructed to transport removed material to containers on the floor. RACM may be dropped to a raised scaffold or containerized at elevated levels for disposal. Materials greater than fifteen (15) feet above the floor shall be dropped onto inclined chutes or scaffolding or containerized at elevated levels for eventual disposal.

E. A coating of encapsulating agent shall be applied to any porous surfaces that have been stripped of RACM to securely seal any residual fibers that may be present. The encapsulating agent should be chosen to be compatible with subsequent coverings.

F. RACM is not required to be stripped from large facility components such as reactor vessels, large tanks, and steam generators if the following requirements are met:

1. The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

2. The component is encased in a leak-tight wrapping.

3. The leak-tight wrapping is labeled during all loading and unloading operations and during storage.

G. When the temperature at the point of wetting is below 0°C (32°F):

1. The Asbestos Contractor need not comply with the wetting provisions of §§ 1.14.3(A) and (C) of this Part.

2. The Asbestos Contractor shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

3. During periods when wetting operations are suspended due to freezing temperatures, the Asbestos Contractor must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Department during normal business hours at the asbestos abatement project site. The Asbestos Contractor shall retain temperature records for at least two years.

1.14.4 Specific Requirements for Encapsulation of Regulated Asbestos Containing Material (RACM)

d. HVAC equipment in the abatement area or passing through it but servicing other areas of the building shall be shut down and locked out and thoroughly sealed with 6-mil polyethylene sheeting and waterproof tape.

e. Negative pressure ventilation units with HEPA filtration shall be operated continuously from the time of barrier construction through the time acceptable final clearance air monitoring results are obtained. These units shall exhaust filtered air to the outside of the building. Filtered air shall not be exhausted to uncontaminated interior spaces.

f. Manufacturer's instructions concerning preparation, sealing, utilization and removal of glove bags must be followed unless the abatement plan and/or this Part specify more restrictive requirements.

g. A three-chamber worker decontamination enclosure system, in accordance with 29 C.F.R. § 1926.1101(j) incorporated by reference at § 1.2(A) of this Part, must be available immediately adjacent to the abatement area.

5. All other requirements of §§ 1.14.2 and 1.14.3 of this Part, unless specifically deleted in § 1.14.7(A) of this Part, shall apply to use of glove bags during removal and/or encapsulation of asbestos.

B. Any requests for additional waivers and/or alternative procedures must be submitted for Department review and approval in accordance with § 1.16 of this Part.

1.14.8 Specific Requirements for Removal of Category I Nonfriable ACM - Asphalt Roofing Products

A. All surfaces shall be wet cleaned of dust or debris. All movable objects shall be removed from the roof area. All openings or penetrations on the roof area and at least one level below the roof area shall be sealed, including windows, doorways, drains, ducts, grills, grates, diffusers and skylights.

B. Floor/ground sheeting shall consist of at least two (2) layers of 6-mil polyethylene sheeting and shall be utilized as follows:

1. If the roof is pitched, sheeting shall be applied to the first horizontal surface below the work area and shall extend from the edge of the building to at least ten (10) feet away from the building. All material being abated shall be confined to the roof area.

2. If the roof is flat, sheeting shall extend at least ten (10) feet away from the perimeter of the work area. When the edge of the roof is less than ten (10) feet from the perimeter of the work area, sheeting shall be applied such that the outer edge of the sheeting is at least ten (10) feet from the perimeter of the work area.

C. All HVAC intake or exhaust vents on the roof area and at least one level below the roof area shall be shut down and locked out. All intake and exhaust openings, as well as any seams in system components shall be sealed with 6-mil polyethylene sheeting and/or tape.

D. A minimum of a two-chambered worker decontamination enclosure system shall be provided on site. Procedures for the utilization of this system shall be established which prevent contamination of areas outside the roof area.

E. Warning signs shall be posted in accordance with § 1.14.2(G) of this Part.

F. Category I Nonfriable ACM shall be removed in small sections and containerized when wet. At no time shall material be allowed to accumulate or become dry.

G. Category I Nonfriable ACM shall not be dropped or thrown to the floor/ground level. For roofs at heights greater than fifty (50) feet above the floor/ground, a dust-tight, enclosed chute shall be constructed to transport removed Category I Nonfriable ACM to containers on the floor/ground. Category I Nonfriable ACM may be dropped to a raised scaffold or containerized at elevated levels for disposal.

H. All Category I Nonfriable ACM shall be adequately wetted before being placed into containers for disposal. Disposal shall be in accordance with §§ 1.14.2(K) through (O) of this Part.

I. A coating of encapsulating agent shall be applied to any porous surfaces that have been stripped of Category I Nonfriable ACM to securely seal any residual fibers that may be present. The encapsulating agent should be chosen to be compatible with subsequent coverings.

J. Clean-up procedures using HEPA vacuuming and wet cleaning techniques shall be performed following abatement.

K. Personnel air monitoring of Asbestos Supervisors and Asbestos Workers, which demonstrates compliance with the provisions of OSHA 29 C.F.R. § 1926.1101(f) incorporated by reference at § 1.2(A) of this Part, may be used in lieu of the clearance air sampling requirements contained in § 1.14.2(P) of this Part.

00 50 00 – CONTRACTING FORMS

PART 1 - GENERAL

1.1 COPYRIGHT

A. Contractor is responsible for obtaining a valid license to use all copyrighted documents specified or included in the Project Manual.

1.2 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. See Section 00 5200 for the Agreement form to be executed.

B. See Section 00 7200 for the General Conditions.

1.3 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.

B. Bond Forms:

1. Performance Bond and Payment Bond Forms: AIA A312

C. Release of Lien:

1. Release of Liens Form: AIA G706A

D. Insurance certificate, supplementary attachment:

1. ACORD Certificate of Insurance Form: AIA G715

1.4 REFERENCE STANDARDS

A. AIA G706A – Release of Liens: 1994.

B. AIA A312 - Performance Bond: 2010 and Payment Bond: 2010.

C. AIA G715 – ACORD Certificate of Insurance: 1991.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

00 52 00 – AGREEMENT FORM

PART 1 - GENERAL

1.1 AGREEMENT FORM

A. The Agreement Form to be utilized on this project is AIA Document A101-2017 as amended, a copy of which follows this page.

B. Agreement made as of the date of issue of the Purchase Order for this Work.

C. This Agreement is entered into as of the date of the applicable Purchase Order and is assumed as executed once the Purchase Order is issued.

END OF SECTION

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

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

BETWEEN the Owner:
(Name, legal status, address, telephone and facsimile numbers, and website)

State of Rhode Island, acting by and through the Department of Administration, Division of Purchases, on behalf of the User AgencyOne Capitol Hill, Second Floor Providence, Rhode Island 02908-5855
401.578.8100 (telephone); 401.574.8387 (facsimile)
www.puchasing.ri.gov

on behalf of the User Agency:
(Name, legal status, address, telephone and facsimile numbers, and website)

Rhode Island College
600 Mt Pleasant Avenue
Providence, RI 02908
Tel: (401) 456-9885
www.ric.edu

and the Contractor:
(Name, legal status, address, telephone and facsimile numbers, and website)

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

The Design Agent:
(Name, legal status, address, telephone and facsimile numbers, and website)

The Owner and Contractor agree as follows.

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

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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(3B9ADA4C)

(Paragraph Deleted)

The Owner and Contractor agree as follows.

TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General Conditions, Supplementary Conditions (if any), and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. No part of the Work shall be performed by Subcontractors without the Owner's prior written consent.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall
be the later of: (i) the issuance of the Purchase Order by the Owner; and (ii) the
(Paragraph Deleted)

date set forth in a notice to proceed issued by the User Agency.

(Paragraphs Deleted)

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

§ 3.3 Substantial Completion

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

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

Init.

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[ ] By the following date:

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

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. Subject to additions and deductions as provided in the Contract Documents, the Contract Sum shall be: $_____.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, are specified in the Bid Proposal Form and are included in the Contract Sum.

(Paragraph Deleted)

(Table Deleted)

§ 4.4 Unit prices, if
any, are specified in the Bid Proposal Form and include all costs, including without limitation, labor, materials, services, regulatory compliance, overhead, and profit necessary for the completion of the Work. Unit prices shall be used for both additions to, and deletions from the Work.

(Table Deleted)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

.1 In the event that there is one date for Substantial Completion of the Work, the Contractor shall pay the Owner the sum stipulated in this Section 4.5.1 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work is substantially complete: $_____.

.2 In the event that the Project is scheduled to be completed in phases, and there is more than one date for Substantial Completion of the Work, the Contractor shall pay the Owner an aggregate amount equal to the sums stipulated in this Section 4.5.2 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work for each phase is substantially complete:

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Phase	Liquidated Damages Sum

.3 The Owner and the Contractor have reasonably determined the sums set forth in this Section 4.5 to be a fair estimate of the Owner' actual damages which are difficult to ascertain in the event of delay.

§ 4.6 Other:
(Paragraph Deleted)

The Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work.

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 5.1.3 The Owner shall make payment of the certified amount, less retainage, to the Contractor not later than the 30 th working day following written approval by the Owner.

(Paragraph Deleted)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor and approved by the Design Agent and the Owner in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Design Agent and the Owner may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2007, General Conditions of the Contract for Construction as modified by the Owner, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Design Agent determines, in the Design Agent's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Design Agent has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2007 as modified by the Owner;

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.3 For Work performed or defects discovered since the last payment application, any amount for which the Design Agent may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2007 as modified by the Owner; and

.4 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due: five (5%) percent.

(Paragraph Deleted)

§ 5.1.7.1.1 Deleted.

(Paragraph Deleted)

§ 5.1.7.2 Deleted.

(Paragraph Deleted)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Paragraph Deleted)

The amount of five (5%) percent shall be retained by the Owner through the date of Substantial Completion of the Work and then after the date of Substantial
Completion of the Work in accordance with R.I. Gen. Laws § 37-12-10.1.

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2007 as modified by the Owner.

§ 5.1.9 Except with the Owner's prior written approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.1.10 Within 10 working days of receipt of any progress payment from the Owner, the Contractor must pay its Subcontractors the full amount included for each such Subcontractor within the Contractor's Application for Payment in accordance with the provisions of AIA A201 – 2007, General Conditions of the Contract for Construction as modified by the
Owner.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, less the amount withheld pursuant to § 5.1.7.3, shall be made by the Owner to the Contractor when:

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2007 as modified by the Owner, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Design Agent and approved in writing by the Owner;

.3 the Contractor has submitted its final release and final releases from all of its Subcontractors and suppliers in a form acceptable to the Owner; and

4 the Contractor has submitted to the Owner all close-out documents, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 working days after the issuance of the Design Agent's final Certificate for Payment and written approval by the Owner.

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§ 5.3 Interest
Payments due and unpaid under the Contract shall bear interest from the date payment is due in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 **et seq.**

§ 5.4 Owner's Rights
§ 5.4.1 The Owner shall have the right to deduct from any payments due to the Contractor the amount of any unpaid obligations owed to the State of Rhode Island by the Contractor, including without limitation, any and all unpaid taxes, the amount of any claim against the Contractor arising out of this Agreement, or any amount on account of any other reason permitted by applicable law.

§ 5.5 Pursuant to R.I. Gen. Laws § 44-1-6, the Owner shall withhold payment from the Contractor if the Contractor does not maintain a regular place of business in Rhode Island in the amount of three (3%) percent of the Contract Sum until 30 calendar days after Final Completion and compliance by the Contractor with the *requirements of such section.*

ARTICLE 6 DISPUTE RESOLUTION
§ 6.1 Initial Decision Maker
Claims shall be referred to the Initial Decision Maker for initial decision. The Purchasing Agent appointed pursuant to the provisions of the "State Purchases Act," R.I. Gen. Laws § 37-2-1 et seq., will serve as the Initial Decision *Maker in accordance with the provisions of the State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 6.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 6.3 of any Claim arising prior to the*
date final payment is due.

§ 6.2 Mediation
For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 6.3, the Contractor shall *have the*
option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of
such option by the Contractor, the Owner and the Contractor shall attempt to select a mediator, and in the event that the Owner and the Contractor cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

(Paragraph Deleted)

§ 6.3 Binding Dispute Resolution
For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, or mediation at the option of the Contractor pursuant to Section 6.2, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 **et seq.**

ARTICLE 7 TERMINATION OR SUSPENSION
§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007, as modified by the Owner. The Contract may also be terminated by the Owner: (i) in the event of the unavailability of appropriated funds; (ii) in the absence of a determination of continued need; or (iii) as *otherwise provided in the State of Rhode Island Procurement Regulations General Conditions of Purchase or other applicable law.*

§ 7.1.1 Deleted.

§ 7.2 The Work may be suspended by the Owner as provided in: (i) the State of Rhode Island General Conditions of Purchase Regulation or other applicable law; or (ii) Article 14 of AIA Document A201–2007 as modified by the Owner.

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ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to: (i) the AIA Document A201 – 2007 or other Contract Document as modified by the Owner; and (ii) that provision in the AIA Document A201 – 2007 as modified by the Owner or other Contract Document as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Representatives for the Owner

§ 8.2.1 The Owner's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

§ 8.2.2 The User Agency's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

Kevin Fitta, Director Capital Projects
RI College
600 Mt Pleasant Ave
Providence, RI 02908
Tel: (401) 456-9885
www.ric.edu

§ 8.2.3 The Design Agent's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

§ 8.3 The Contractor's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

§ 8.4 Neither the Owner's nor the Contractor's representative nor the Design Agent's representative shall be changed without 10 working days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in the Solicitation and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in the Solicitation and elsewhere in the Contract Documents.

§ 8.6 Deleted.

§ 8.7 Other provisions:

§ 8.7.1 The Contractor represents and warrants to the Owner, in addition to any other representations and warranties of the Contractor elsewhere in the Contract Documents:

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.1 The Contractor and its Subcontractors are each financially solvent, able to pay their debts as they mature, and possess sufficient working capital to perform their obligations under the Contract Documents.
.2 The Contractor and its Subcontractors are each able to furnish the tools, materials, equipment, and labor required to complete the Project as required under the Contract Documents.
.3 The Contractor and each Subcontractor are authorized to do business in the State of Rhode Island and are properly licensed by all necessary governmental authorities having jurisdiction over them and over the Work and the Project.
.4 The execution of this Agreement and its performance is within its duly authorized powers.
.5 The Contractor has visited the site of the Project, familiarized itself with the local and special conditions under which the Work is to be performed, and correlated its observations with the requirements of the Contract Documents.
.6 The Contractor possesses the requisite level of experience and expertise in the business administration, construction, and superintendence of projects of the size, complexity, and nature of the Project, and it will perform the Work with the care, skill, and diligence of a contractor possessing such experience and expertise.

§ 8.7.2 The representations and warranties of the Contractor in this Section 8.7 and elsewhere in the Contract Documents will survive the execution and delivery of this Agreement, any termination of this Agreement, and the final completion of the Work.

§ 8.7.3 Any Change Orders or other Modifications must be approved in writing by the Owner.

§ 8.7.4 The Owner is the State of Rhode Island, acting by and through its Department of Administration, Division of Purchases, and therefore, pursuant to the provisions of R.I. Gen. Laws § 34-28-31, mechanics liens may not be placed against the Project.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, as modified by the Owner

.2 **Deleted.**

.3 AIA Document A201™–2007, General Conditions of the Contract for Construction, as *modified by the* Owner.

.4 **Deleted.**

.5 Drawings

(Table Deleted)

The Drawings are included in the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

.6 Specifications

(Table Deleted)

The Specifications are included in the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

.7 Addenda, if
(Table Deleted)

any, issued pursuant to the Solicitation form a part of the Solicitation and are available on the

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Division of Purchases website at www.purchasing.ri.gov.

.8 *Supplementary and other Conditions of the Contract, including without limitation, the State of Rhode Island General Conditions of Purchase Regulation.*

.9 Other documents listed below:

(Paragraph Deleted)

.1 The Solicitation, issued by the Owner, including without limitation, the Invitation to Bid, the Instructions to Bidders, the Specifications and Drawings, any Addenda, and the Bid Checklist.

(Paragraph Deleted)

.2 The Bid Proposal, including without limitation, the Bid Form and the Bidder Certification Cover Form.

(Table Deleted)

.3 The Purchase Order issued by the Owner.

§ 9.2 This Agreement and the Contract Documents are subject to, and governed by, the laws of the State of Rhode Island, including all procurement statutes and regulations (available at www.purchasing.ri.gov), and applicable federal and local law, all of which are fully incorporated into this Agreement by this reference.

(Table Deleted)

(Paragraph Deleted)

§ 9.3 In the event of any conflict between or among the Contract Documents, or any Contract Documents and any provision of the State of Rhode Island Procurement Regulations and/or any other provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws shall control.

ARTICLE 10 BENEFITS OF AGREEMENT

§ 10.1 The User Agency is a disclosed third-party beneficiary of this Agreement and shall have all of the rights and benefits hereunder to which such a party is entitled. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, any other third party against the Owner or the User Agency.

§ 10.2 This Agreement shall be binding on the Contractor and its successors and assigns; provided, however, that the Contractor may not assign its rights nor delegate its responsibilities under this Agreement without the Owner's prior written consent.

This Agreement is entered into as of the day and year first written above; provided, however, that this Agreement shall not become a valid, binding, and enforceable contract unless and until the Owner shall have issued a Purchase Order.

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THE STATE OF RHODE ISLAND, acting by and through its Department of Administration, Division of Purchases

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*

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00 65 19 – WAIVER OF LIEN FORM

RIC Document Waiver of Lien Form is included, following this page, as an integral part of the Contract documents. A copy with completed information must be submitted with the second and each succeeding Application for Payment.

RHODE ISLAND COLLEGE

Capital Projects Administration
600 Mount Pleasant Ave, Physical Plant, Providence, RI 02908

WAIVER OF LIEN FORM MATERIAL OR LABOR

Construction Project Title: _____

General Contractor: _____

Subcontractor/Supplier: _____

DUNS No.: _____

Application / Certificate for Payment No.: _____

Paid Through Date: _____

Schedule of Values Line Item No.: _____

Description of Work Heading: _____

Total Payments Received, Including Current Payment: _____

The undersigned Representative of the above Subcontractor/Supplier has been contracted by the above General Contractor to furnish materials, or labor, or both, as included in the approved Schedule of Values under the Line Item No. and Description of Work Heading indicated above, for the Construction Project listed above.

The undersigned acknowledges receipt of payment, under this Line Item No. and Description of Work Heading, and hereby waives and releases any and all lien, or claim or right to lien, on the Construction Project listed above, and premises, under the statutes of the State of Rhode Island, relating to Mechanics Liens, on account of materials, or labor, or both, furnished, or which may be furnished, by the undersigned to, or on account of, the above numbered Application and Certificate for Payment.

Dated at this _____day of_____, 20____

Company: _____

Signature: _____

Printed Name: _____

Title: _____

END OF ATTACHMENT

00 72 00 – GENERAL CONDITIONS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

A. The General Conditions to be utilized on this project are AIA Document A201-2007 as amended, a copy of which follows this page.

END OF SECTION

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

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

600 Mt Pleasant Ave
Providence, RI 02908

THE OWNER:
(Name, legal status and address)

(Paragraphs deleted) The State of Rhode Island, acting by and through the Department of Administration Division of Purchases, on behalf of the User Agency
One Capitol Hill, Second Floor
Providence, Rhode Island 02908-5855
(401) 574-8100 (telephone)
(401 574-8387 (facsimile)
www.purchasing.ri.gov

THE USER AGENCY

(Paragraphs deleted)
(Name, address, telephone and facsimile numbers, and web address)

Rhode Island College
600 Mt Pleasant Ave
Providence, RI 02908
Tel: (401) 456-9885
(Paragraphs deleted)
www.ric.edu

THE Design Agent:
(Paragraphs deleted)
(Name, legal status, address, telephone and facsimile numbers, and web address)

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

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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 (the Agreement) and consist of the Agreement (and the documents enumerated therein), Conditions of the Contract (General Conditions, Supplementary Conditions, if any, 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 Design Agent.

§ 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 Design Agent or the Design Agent's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Design Agent or the Design Agent's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Design Agent shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Design Agent'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 Design Agent and the Design Agent'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 and services 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; the Contractor shall perform all work reasonably inferable from the Contract Documents 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.

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§ 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.

§ 1.2.4 In the event of any conflicts or discrepancies among the Contract Documents, the provisions of the Contract Documents will be interpreted in the following order of priority:

.1 Modifications (if any).
.2 The Purchase Order.
.3 The Agreement.
.4 The Solicitation, including any Addenda, and the Specifications and Drawings
.5 The Supplementary Conditions (if any).
.6 The General Conditions.
.7 The Bid Proposal.

§ 1.2.5 In the event of any conflicts or discrepancies between the Contract Documents and the State of Rhode Island Procurement Regulations or any provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws will control.

§ 1.2.6 In the event of any inconsistency between the Drawings and Specifications, the better quality or greater quantity of Work shall be provided.

§ 1.2.7 The Owner will be the final decision maker for any and all interpretations.

§ 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 Owner and the User Agency shall have a perpetual license to utilize the Drawings, Specifications, and other documents, including electronic or digital documents, prepared by the Design Agent and the Design Agent's consultants, for the execution of the Project and shall have and retain all rights to use them and reproduce them for the production and maintenance of the Work described therein. 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 Design Agent's or Design Agent'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, Design Agent and the Design Agent'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

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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 Design Agent does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 Deleted.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER
§ 2.2.1 Deleted.

§ 2.2.2 The Contractor shall secure and pay for permits and fees, 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 If required for the Work in the discretion of the Owner, 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 any 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 Deleted.

§ 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 10 working-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 Design Agent'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 Design Agent. 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. 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 Design Agent, or by tests, inspections, or approvals required or performed by persons or entities other than the Contractor.

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§ 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 Owner and the Design Agent any errors, inconsistencies, or omissions discovered by or made known to the Contractor or additional Drawings, Specifications, or instructions required to define the Work in greater detail to permit the proper progress of the Work as a request for information in such form as the Design Agent 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 Design Agent and the Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Design Agent or Owner may require.

§ 3.2.3.1 Omissions from the Drawings and Specifications of items obviously needed to perform the Work properly, such as attachments, bolts, hangers, and other fastening devices, shall not relieve the Contractor from the obligation to furnish and install such items.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Design Agent 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, 3.2.3, or 3.2.3.1, 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 Design Agent 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.

§ 3.2.4.1 The Contractor shall not make any changes without prior written authorization from the Design Agent and the Owner.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 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 Design Agent and shall not proceed with that portion of the Work without further written instructions from the Design Agent. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without

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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. Whenever the Contractor has an obligation to provide labor and materials under the Agreement, the Contractor, at a minimum, shall provide the labor for, and furnish and install and place in operation all items, including without limitation, all proper connections.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Design Agent 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 Design Agent 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 the Design Agent that materials and equipment furnished under the Contract will be of first quality, prime manufacture, 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, including substitutions not properly authorized, 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 Design Agent, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

§ 3.6.1 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.

§ 3.6.2 The State of Rhode Island is exempt from payment of any federal or state excise, transportation, or sales tax. The Rhode Island Department of Administration Division of Purchases will furnish Exemption Certificates upon request.

§ 3.6.3 Pursuant to R.I. Gen. Laws § 44-1-6, the Owner shall withhold payment from the Contractor if the Contractor does not maintain a regular place of business in Rhode Island in the amount of three (3%) percent of the Contract Sum until 30 calendar days after Final Completion and compliance by the Contractor with the requirements of such section.

§ 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 required by the Rhode Island State Building Code 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. The Contractor shall be responsible for obtaining the Certificate of Occupancy from the appropriate governmental authorities.

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§ 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 The Contractor shall promptly notify the Design Agent and the Owner if the Contractor becomes aware that the Contract Documents are not in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. 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 Design Agent before conditions are disturbed and in no event later than 21 working days after first observance of the conditions. The Design Agent will promptly investigate such conditions and, if the Design Agent 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 Design Agent 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 Design Agent shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Design Agent'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 Design Agent. 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 Design Agent the name and qualifications of a proposed superintendent. The Design Agent may reply within 14

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working days to the Contractor in writing stating (1) whether the Owner or the Design Agent has reasonable objection to the proposed superintendent or (2) that the Design Agent requires additional time to review. Failure of the Design Agent to reply within the 14 working-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 Design Agent 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, within 20 working days after the issuance of the Purchase Order, shall prepare and submit for the Owner's and Design Agent'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, not less frequently than monthly, 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. The Contractor shall certify on the initial schedule and all revised schedules that they comply with the Contract Documents.

§ 3.10.2 The Contractor shall prepare a submittal schedule, within 20 working days after the issuance of the Purchase Order, and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Owner's and the Design Agent's approval. The Owner's and the Design Agent'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 Owner and the Design Agent 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 Design Agent.

§ 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 Design Agent and shall be delivered to the Design Agent 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 Design Agent is subject to the limitations of Section 4.2.7. Informational submittals upon which the Design Agent 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 Design Agent without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Design Agent Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Owner and the Design Agent or, in the absence of an

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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 Design Agent 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 Design Agent.

§ 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 Design Agent's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Design Agent in writing of such deviation at the time of submittal and (1) the Design Agent 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 Design Agent'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 Design Agent on previous submittals. In the absence of such written notice, the Design Agent'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 Design Agent 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 Design Agent. The Owner and the Design Agent 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 Design Agent have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Design Agent 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.

§ 3.12.11 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluation of resubmittals.

§ 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 any restrictions imposed by the User Agency or the Owner, 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.

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§ 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 Design Agent 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 Design Agent 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 Design Agent. 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 Design Agent and the Owner.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, the State of Rhode Island, and each executive, legislative, judicial, regulatory, and administrative body of the state, and any political subdivision thereof, including without limitation, any department, division, agency, commission, board, office, bureau, committee, authority, educational institution, school, water, and fire district, and other agency of Rhode Island state, municipal, and local government that exercises governmental functions, any other governmental authority, and any quasi-public corporation and/or body corporate and politic, including without limitation, the User Agency, their elected and appointed officials, members, employees, and agents, the Design Agent, the Design Agent's Consultants, Subconsultants, and Subcontractors, and agents and employees and any of them from and against any and all claims, demands, damages, liabilities, judgments, losses and expenses, including but not limited to attorneys' fees and costs of mediation, arbitration, and/or litigation, arising out of or resulting from performance of the Work, and/or the obligations of the under the Contract Documents, but only to the extent caused by the 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 any such claim, demand, damage, liability, judgment, 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 that 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.

§ 3.18.3 Without limiting the generality of the foregoing, the defense and indemnity set forth in this Section 3.18 includes, without limitation, all liabilities, damages, losses, claims, demands, and actions on account of bodily injury, death, or property loss to a person or entity indemnified hereunder or any other persons or entities, whether based upon statutory (including, without limitation, workers compensation), contractual, tort, or other liability of any person or

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entity so indemnified.

§ 3.18.4 The remedies set forth herein shall not deprive any person indemnified hereunder of any other indemnity action, right, or remedy otherwise available to any such person or entity at common law or otherwise.

§ 3.18.5 The Contractor will include the indemnity set forth in this Section 3.18, without modification, in each Subcontract with any Subcontractor.

§ 3.18.6 Notwithstanding any other language in the Contract Documents to the contrary, the indemnity hereunder shall survive Final Completion of the Work and final payment under the Agreement and shall survive any termination of the Agreement.

ARTICLE 4 DESIGN AGENT

§ 4.1 GENERAL

§ 4.1.1 The Design Agent is the person lawfully licensed to practice his or her profession in the State of Rhode Island or an entity lawfully practicing its profession in the State of Rhode Island and identified in the Contract Documents as the Design Agent. The term "Design Agent" means the Design Agent or the Design Agent's authorized representative.

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

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

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Owner with assistance from the Design Agent will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction through the date the Design Agent issues the final Certificate for Payment and continuing until the expiration of the one-year period following Final Completion. The Design Agent will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Design Agent 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 Design Agent will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Design Agent 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.

§ 4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for site visits made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

§ 4.2.3 On the basis of the site visits, the Design Agent 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 Design Agent will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Design Agent 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 Design Agent about matters arising out of or relating to the Contract. Communications by and with the Design Agent's consultants shall be

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through the Design Agent. 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 Design Agent's evaluations of the Contractor's Applications for Payment, the Design Agent will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Design Agent has authority to reject Work that does not conform to the Contract Documents. Whenever the Design Agent considers it necessary or advisable, the Design Agent 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 Design Agent 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 Design Agent 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 Design Agent 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 Design Agent's action will be taken in accordance with the submittal schedule approved by the Design Agent or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Design Agent'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 Design Agent'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 Design Agent's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Design Agent, of any construction means, methods, techniques, sequences or procedures. The Design Agent's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

§ 4.2.9 The Design Agent 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 Design Agent agree, the Design Agent will provide one or more project representatives to assist in carrying out the Design Agent'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 Design Agent will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Design Agent'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 Design Agent 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 Design Agent 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 Design Agent's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents and approved by the Owner.

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§ 4.2.14 The Design Agent will review and respond to requests for information about the Contract Documents. The Design Agent's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Design Agent 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 and the Design Agent the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each portion of the Work. The Owner may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the Design Agent has reasonable objection to any such proposed person or entity or (2) that the Owner or Design Agent requires additional time for review.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Design Agent 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 Design Agent has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent 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 Design Agent makes reasonable objection to such substitution.

§ 5.2.5 MANUFACTURERS AND FABRICATORS

§ 5.2.5.1 Not later than 10 working days after the date of commencement of the Work, the Contractor shall furnish in writing to the Owner and the Design Agent the names of the manufacturers or fabricators for certain products, equipment, and systems identified in the Specifications and, where applicable, the name of the installing Subcontractor. The Owner may reply within 14 working days to the Contractor in writing, stating: (i) whether the Owner or the Design Agent has reasonable objection to any such proposed person manufacturer or fabricator; or (ii) whether the Owner or Design Agent requires additional time to review.

§ 5.2.5.2 The Contractor shall not contract with a proposed manufacturer, fabricator, or Subcontractor to whom the Owner or Design Agent has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.5.3 If the Owner or Design Agent has an objection to a manufacturer, fabricator, or Subcontractor proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent has no objection.

§ 5.2.5.4 The Contractor shall not substitute a manufacturer, fabricator, or Subcontractor previously selected if the Owner or Design Agent makes reasonable objection to such substitution.

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§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate written agreement, 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 Design Agent. Upon the request of the User Agency and/or the Owner, the Contractor shall provide the User Agency and/or the Owner with copies of each subcontract agreement. Each subcontract agreement shall preserve and protect the rights of the Owner and Design Agent 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.

(Paragraph deleted)

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 working 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.

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.

§ 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.

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§ 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 Design Agent 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 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 between the Owner and the Contractor; a Construction Change Directive requires agreement by the Owner 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 Design Agent 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 Contractor and signed by the Owner, Contractor and Design Agent 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.

§ 7.2.2 Subsequent to the approval of a Change Order as provided in § 7.1.2, whether such Change Order changes the Contract Sum or Contract Time or both, no additional claim related to such Change Order will be considered by the Owner. Any change, once incorporated into a Change Order, is all inclusive, and includes all factors that could have been considered at the time of the Change Order such as Project impact or schedule "ripple" effect.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Design Agent and signed by the Owner, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or

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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 Deleted.

§ 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 Design Agent 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 Design Agent 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 Section 7.3.1. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Design Agent 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 delivery;
- **.3** Rental costs of machinery and equipment, exclusive of hand tools; or
- **.4** Costs of premiums for all bonds and insurance and permit fees related to the Work..

§ 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 Design Agent. 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 Design Agent will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Design Agent determines, in the Design Agent's professional judgment, to be reasonably justified. The Design Agent'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 Design Agent 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 Contractor will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

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§ 7.3.11 The combined overhead and profit included in the total cost to the Owner for a change in the Work shall be based on the following schedule:

.1 For the Contractor, for work performed by the Contractor's own forces, an amount not to exceed ten (10%) percent of the cost.

.2 For the Contractor, for work performed by the Contractor's Subcontractors, an amount not to exceed five (5%) of the amount due to the Subcontractors.

.3 For each Subcontractor, for work performed by the Subcontractor's own forces, an amount not to exceed ten (10%) percent of the cost.

.4 For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors, 5% of the amount due the Sub-subcontractor.

.5 Where the Work represents both additions and deletions and results in a net increase, the allowable overhead and profit shall be in accordance with this Section 7.3.11, but in no event shall the amount exceed fifteen (15%) percent of the net increase in the cost of the Work.

.6 The fee increase to any permit required by the additional work is allowed to be added to the Change Order costs. However, the Contractor is required to submit proof that the additional fee was paid to the presiding authority.

§ 7.3.12 All proposals with an aggregate cost equal to or in excess of $500.00 shall be accompanied by a detailed itemization of costs, including labor, materials (quantities and prices), and Subcontracts, in a form acceptable to the Owner. In no event will a change order request reflecting an aggregate cost equal to or in excess of $500.00 be approved without such itemization.

§ 7.4 MINOR CHANGES IN THE WORK

The Design Agent with the prior written approval of the Owner 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 affected by written order signed by the Design Agent 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.

The date of commencement of the Work is the date established in Section 3.1 of the Agreement..

(Paragraph deleted)

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

§ 8.1.4 Deleted.

§ 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 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 Design Agent, 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

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causes beyond the Contractor's control, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner 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

Within 20 working days of the issuance of the Purchase Order, and promptly if revision is necessary from time to time as a result of a Change Order, the Contractor shall submit to the Owner, 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 Design Agent and the Owner may require. This schedule, if and when approved by the Design Agent and the Owner in writing, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least 10 working days before the date established for each progress payment, the Contractor shall submit to the Design Agent and the Owner for approval an itemized Application for Payment prepared in accordance with the schedule of values 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 the Design Agent 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 All Applications for Payment for Change Orders must be accompanied by a Notice of Change in Purchase Order issued by the Owner, and if directed by the Owner, by the User Agency.

§ 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.

§ 9.3.1.3 The form of Application for Payment shall be AIA Document G702, Application and Certification for Payment, supported by AIA Document G702A, Continuation Sheet.

§ 9.3.1.4 Until Substantial Completion, the Owner shall pay ninety-five (95%) percent of the amount due the Contract on account of progress payments.

§ 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 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. The Contractor shall immediately satisfy any lien, claim, or encumbrance against the site where

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the Project is located and indemnify the Owner from and against all resulting costs and expenses, including without limitation, attorneys' fees.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Design Agent will, within 7 working 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 Design Agent determines is properly due, or notify the Contractor and Owner in writing of the Design Agent'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 Design Agent to the Owner, based on the Design Agent's evaluation of the Work and the data comprising the Application for Payment, that, 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 Design Agent. 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 Design Agent 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.

§ 9.4.3 The Contractor must submit all product literature, material and color samples with each Application for Payment, or as otherwise required by the Owner.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Design Agent will withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Design Agent's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Design Agent is unable to certify payment in the amount of the Application, the Design Agent will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Design Agent cannot agree on a revised amount, the Design Agent will promptly issue a Certificate for Payment for the amount for which the Design Agent is able to make such representations to the Owner. The Design Agent 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 Design Agent'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;
- **.7** failure to carry out the Work in accordance with the Contract Documents; or
- **.8** any other failure to comply with the obligations of the Contractor under 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 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 Design Agent and the Design Agent will reflect such payment on the next Certificate for Payment.

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§ 9.6 PROGRESS PAYMENTS

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

§ 9.6.2 The Contractor shall pay each Subcontractor no later than 10 working 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 Design Agent 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 Design Agent 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 7 working days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. The Owner shall have the right to withhold payment(s) to the Contractor in the event that any Subcontractors or material and equipment suppliers have not been properly paid. Neither the Owner nor Design Agent 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 Design Agent does not issue a Certificate for Payment, through no fault of the Contractor, within 7 working days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within 7 working days after the date established in the Contract Documents the amount certified by the Design Agent or awarded by binding dispute resolution, then the Contractor may, upon 7 additional working days' written notice to the Owner and Design Agent, make a claim for payment as provided under the provisions of applicable law.

§ 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 Design Agent 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 Design Agent will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Design Agent'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

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shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Design Agent. In such case, the Contractor shall then submit a request for another inspection by the Design Agent to determine Substantial Completion. The Design Agent will perform no more than 2 inspections to determine whether the Work or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for any additional inspections.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Design Agent 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.

§ 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 less the amount of five (5%) percent to be retained by the Owner in accordance with R.I. Gen. Laws § 37-12-10.1. 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 Design Agent 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 Design Agent.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Design Agent 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 Design Agent will promptly make such inspection and, when the Design Agent finds the Work acceptable under the Contract Documents and the Contract fully performed, the Design Agent will promptly issue a final Certificate for Payment stating that to the best of the Design Agent's knowledge, information and belief, and on the basis of the Design Agent'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 Design Agent'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. The Design Agent will perform no more than 2 inspections to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for any additional inspections.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Design Agent (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

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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 working 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, (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, and (6) all other close-out documents required by the Owner, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents. 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 Design Agent so confirms, the Owner shall, upon application by the Contractor and certification by the Design Agent, 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 Design Agent 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;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** claims permitted under the State of Rhode Island General Conditions of Purchase Regulation.

§ 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.

§ 9.11 The Contractor and the Contractor's surety shall be liable for and shall pay the Owner as liquidated damages the sums specified in the Solicitation and Bid Form, or if completed, the amount set forth in Section 3.4 of the Agreement.

§ 9.12 Warranties required by the Contract Documents shall commence on the date of Final Completion of the Work.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

§ 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

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

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§ 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 and in consultation with the appropriate governmental authorities.

§ 10.2.4.1 When use or storage of explosives, or other hazardous materials, substances or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall give the User Agency and the Owner reasonable advance notice.

§ 10.2.4.2 If the Contract Documents require the Contractor to handle materials or substances that under certain circumstances may be designated as hazardous, the Contractor shall handle such materials in an appropriate manner.

§ 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 Design Agent 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 Design Agent.

§ 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. 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 Design Agent 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 Design Agent 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 Design Agent 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 Design Agent has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Design Agent 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

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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 extent permitted by the provisions of R.I. Gen. Laws §§ 9-31-1 **et seq.**, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Design Agent, Design Agent'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 is specified in the Solicitation and 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.

§ 11.1.1.2 The Contractor's liability insurance shall include all major coverages and be on a comprehensive general liability basis.

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§ 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 as specified in the Solicitation and as otherwise acceptable to the Owner shall be filed with the Owner and the User Agency 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 working days' prior written notice has been given to the Owner and the User Agency. 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 User Agency, and their elected and appointed officials, members, employees, and agents, the Design Agent and the Design Agent's consultants as additional insureds for claims caused in whole or in part by the Contractor's acts or omissions during the Contractor's operations; and (2) the Owner, the User Agency, and their elected and appointed officials, members, employees, and agents, as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 The Contractor shall be responsible for the prompt payment to the Owner of any deductible amounts under any insurance policies required under the Contract Documents for claims made pursuant to such policies.

§ 11.2 OWNER'S LIABILITY INSURANCE.

§ 11.2.1 The Contractor shall furnish the Owner and the User Agency, through the Design Agent, an insurance certificate providing Owner's Protective Liability extended to include the interests of the Design Agent, and to protect the Owner, User Agency, and Design Agent from any liability which might be incurred against any of them as a result of any operation of the Contractor or Subcontractors or their employees or anyone for whom either the Contractor or Subcontractors are responsible. Such insurance shall be written for the same limits as the Contractor's commercial general liability insurance and shall include the same coverage.

§ 11.2.2 If the Owner engages separate contractors to perform work for, or in or around, the Project, it shall require in its contracts with each separate contractor that Contractor and its officers, directors, partners, members, employees, and agents shall be: (i) named as additional insureds on a primary, noncontributory basis to any commercial general liability, pollution liability, and excess liability insurance policies; and (ii) provided a waiver of subrogation on all workers compensation and professional liability insurance policies.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the state of Rhode Island, 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 User Agency, the Contractor, Subcontractors and Sub-subcontractors in the Project. If the Owner and/or the User Agency incur any damages by failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable cost resulting from such failure.

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§ 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 Design Agent's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 Deleted.

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

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

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The 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 Deleted.

§ 11.3.3 Deleted.

§ 11.3.4 Deleted.

§ 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 Contractor shall file with the Owner 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 working days' prior written notice has been given to the Owner and the User Agency.

§ 11.3.7 WAIVERS OF SUBROGATION

The Contractor waives all rights against the Owner and the User Agency and any of their subcontractors, sub-subcontractors, agents and employees, and (2) the Design Agent, Design Agent'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 Design Agent, Design Agent'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 this property insurance shall be adjusted by the Contractor 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

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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 Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor 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 Contractor 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 5 working days after occurrence of loss to the Contractor'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.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Solicitation.

§ 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 Design Agent's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Design Agent, be uncovered for the Design Agent'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 Design Agent has not specifically requested to examine prior to its being covered, the Design Agent 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 Design Agent 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 Design Agent'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 Final 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. If the Contractor fails to correct nonconforming Work within a reasonable time after receipt of notice from the Owner or Design Agent, the Owner may correct it in accordance with Section 2.4.

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§ 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.

§ 12.2.2.4 Upon request by the Owner and prior to the expiration of one year from the date of Final Completion, the Design Agent will conduct and the Contractor shall attend 2 meetings with the Owner to review the facility operations and performance.

§ 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 State of Rhode Island.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their 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 any executive, legislative, judicial, regulatory, or administrative body of the state, or any political subdivision thereof, including without limitation, any department, division, agency, commission, board, office, bureau, authority, school, water, or fire district, or other agency of Rhode Island state or local government that exercises governmental functions, any other governmental authority, and any quasi-public corporation and/or body corporate and politic. 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, or when received, if manually delivered or transmitted by electronic mail or facsimile to the last such address known to the party giving notice.

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§ 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, Design Agent 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 Design Agent timely notice of when and where tests and inspections are to be made so that the Design Agent 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 Design Agent, 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 Design Agent 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 Design Agent of when and where tests and inspections are to be made so that the Design Agent 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 Design Agent'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 Design Agent.

§ 13.5.5 If the Design Agent is to observe tests, inspections or approvals required by the Contract Documents, the Design Agent 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

No interest shall be due or payable on account of any payment due or unpaid under the Contract Documents except in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 **et seq.**

§ 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. 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 calendar 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:

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.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; or
.3 Because the Design Agent 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

§ 14.1.2 Deleted.

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon 7 working days' written notice to the Owner and Design Agent, terminate the Contract and recover from the Owner payment for Work executed.

§ 14.1.4 If the Work is stopped for a period of 60 calendar 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 7 additional days' written notice to the Owner and the Design Agent, 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 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 disregards or fails to comply with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
.4 otherwise is guilty of breach of a provision of the Contract Documents; or
.5 cancels or the Contractor or the Owner receives notice of cancellation or nonrenewal of any insurance required under 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, 7 working 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 Design Agent's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

§ 14.3.2 The

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(Paragraphs deleted)
Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work in accordance with the provisions of Section 8.3.1.

§ 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.

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. Such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly serviced if delivered in person, by mail, by courier, or by electronic transmission. Claims by either party must be initiated within 21 working days after occurrence of the event giving rise to such Claim or within 21 working 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 Design Agent 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.

§ 15.1.5.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each

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cause of delay ceased to affect the progress of the Work and the number of days' increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.

§ 15.1.5.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor.

§ 15.1.6
(Paragraphs deleted)
Deleted.

§ 15.2 INITIAL DECISION
§ 15.2.1 Claims shall be referred to the Initial Decision Maker for initial decision. The Purchasing Agent appointed pursuant to the provisions of the "State Purchases Act," R.I. Gen. Laws § 37-2-1 **et seq.**, will serve as the Initial Decision Maker in accordance with the provisions of the State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 15.2.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 15.3.1 of any Claim arising prior to the date final payment is due.

§ 15.2.2 Deleted.

§ 15.2.3 Deleted.

§ 15.2.4 Deleted.

§ 15.2.5 Deleted.

§ 15.2.6 Deleted.

§ 15.2.6.1 Deleted.

§ 15.2.7 Deleted.

§ 15.2.8 Deleted.

§ 15.3 MEDIATION
§ 15.3.1 For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 15.4.1, the Contractor or the Design Agent shall have the option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of such option by the Contractor or the Design Agent, the Owner and the Contractor or the Design Agent shall attempt to select a mediator, and in the event that the Owner and the Contractor or the Design Agent cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

§ 15.3.2 Deleted.

§ 15.3.3 Deleted.

§ 15.4 BINDING DISPUTE RESOLUTION
§ 15.4.1 For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, or mediation at the option of the Contractor pursuant to Section 15.3.1, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 **et seq.**

(Paragraphs deleted)

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§ 15.4.4 Deleted.

§ 15.4.4.1 Deleted.

§ 15.4.4.2 Deleted.

§ 15.4.4.3 Deleted.

§ 16 COMPLIANCE WITH APPLICABLE LAW

The Contractor and its Subcontractors shall comply with all applicable federal, state, and local laws.

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00 73 01 – HOT WORK PROCEDURE

PART 1 - GENERAL

The following procedure applies to the Contract for Construction and is a part of the Contract Documents:

WELDING, CUTTING AND BRAZING HOT WORK PROCEDURE

1.1 PURPOSE

To establish regulations and rules for the safe uses of open flames and spark producing equipment in state owned or leased facilities. Applicable regulations pertinent to this guide include OSHA 29 CFR 1910.252-.255 and NFPA 51B, and the insurers Hot Work Requirements.

1.2 POLICY

A. Fire Protection

1. Contractors and employees shall comply with the regulations set forth in this policy to ensure the safe use of open flames and spark producing equipment.
2. When performing work within a state facility with a cutting torch or when using welding, brazing or soldering equipment a hot work permit is required to be filled out and precautions followed. The Hot Work Permits are available (free of charge) directly from the state's property insurer.
3. Prior to the start of the hot work operation, the contractor is to coordinate deactivation of related of the alarm system necessary to prevent false alarms prior to the start of the hot work operation with the Owner.
4. Upon completion of the project the fire alarm system will be restored to operational status.
5. During the hot work operation the following precautions will be followed:
   a. A fire watch will be required by the individual responsible for authorizing the hot work operation.
   b. Welding leads and burning hoses are to be kept out of walkways as much as possible
   c. Inspect all leads, grounds, clamps, torches and cylinders before use. Be sure all fittings, couplings and connections are tight.
   d. In gas welding and cutting, mixtures of fuel gas and air or oxygen must not be permitted except prior to consumption.
   e. Only approved apparatus must be used, and portable cylinders of compressed gas must be properly secured to prevent upset.
   f. Use proper ventilation in the work area.
   g. All exposed combustible and flammable material within 35 feet of the point of operation should be removed where possible. Otherwise, protect with Approved welding pads, blankets and curtains, fire resistive tarpaulins or metal shields.
   h. Cutting or welding on pipes or other metal in contact with combustible walls, partitions, ceilings or roofs shall not be undertaken if the work is close enough to cause ignition by conduction.
   i. All hoses and leads will be inspected frequently and will be replaced as necessary.
   j. A cutting or welding prohibition will be required whenever an area contains or may contain flammable/explosive vapors. The prohibition can only be lifted when the area has been purged and cleaned and the area has been tested and shown to be free of a flammable/explosive mix.

1.3 RESPONSIBILITY

A. Supervisor

1. Supervisor will train their employees in the potential fire hazards associated with hot work.
2. Supervisor will initiate a hot work permit prior to assigning work.
3. The supervisor will obtain confirmation that:
   a. Available sprinklers, hose streams and extinguishers are in service and operable. 2.) Hot work equipment is in good working condition.
   b. The following requirements within 35 feet of hot work shall be adhered to: a.) Flammable liquid, dust, lint and oily deposits have been removed. b.) Explosive atmosphere has been eliminated.
   c. The floors have been swept clean.
   d. Combustible floors have been wet down, covered with damp sand or fire resistive sheets are in place.
   e. All exposed combustible and flammable material within 35 feet of the point of operation should be removed where possible. Otherwise, protect with FM Approved welding pads, blankets and curtains, fire resistive tarpaulins or metal shields.
   f. All wall and floor openings are covered.
   g. FM approved welding pads, blankets and curtains installed under and around work.
   h. Protect or shut down ducts and conveyors that might carry sparks to distant combustible material.
4. The supervisor is responsible for assuring that a 60 minute fire watch is maintained at the completion of all hot work assignments, that a hot work permit has been acquired for work involving open flames or spark producing tools and for assuring all fire prevention procedures and precautions are followed for protection of people and property including a fire watch, deactivation of the fire alarm.
5. The supervisor will require that the area be monitored periodically for three hours after the fire watch is completed.
6. The supervisor will confirm that employees are trained in use of fire extinguishers and hoses, and that the employees are familiar with emergency procedures in the event of a fire.
7. At least once while the permit is in effect, the area should be inspected by the individual responsible for authorizing, cutting or welding operations to ensure that it is a fire safe area. (See article 3 above for fire safe conditions.)
8. Proper personnel protective equipment including helmets, eye wear, face and hand shields applicable to the equipment used will be provided by the supervisor.
   a. The equipment will be maintained and fit tested by management.
9. Personal protective clothing consistent with OSHA standards will be worn.
10. Tarps or fire resistant coverings sufficient to cover combustible materials within 35 feet of the operation will be provided.

B. Employees

1. The employee shall be responsible to work in a safe manner and follow all safety precautions as trained by the supervisor.
2. The employee charged with performing the hot work will initiate part 2 of the hot work permit and verify that a 60 minute fire watch has been maintained.
3. Employees performing hot work will be required to either properly remove or cover combustible materials in the 35 foot area surrounding the hot work operation.

C. Fire Safety Officer
    1. The state employee charged with maintaining or inspecting the fire alarm system will deactivate the system.
    2. The area will be evaluated by this individual to identify fire hazards and provide required suppression equipment.
    3. The fire safety officer will ensure that combustible materials within 35 feet of the hot work operation are properly tarped or moved a safe distance.
    4. In addition, this officer will ensure that personnel in close proximity to this work area are properly protected against heat, sparks and slug.

D. Management
    1. Maintain a log of hot work permits.
    2. Provide safety training for supervisors.
    3. Confirm that all contractors follow all requirements of this protocol.

END OF SECTION

00 73 02 – MANAGING FIRE PROTECTION SYSTEM IMPAIRMENT

PART 1 - GENERAL

1.1 IMPLEMENTATION

A. The following management procedure applies to the Contract for Construction and is a part of the Contract Documents.

1.2 MANAGING FIRE PROTECTION SYSTEM IMPAIRMENT

A. Impairment to fire protection equipment is a situation in which the system is shut off, either in whole or in part. The impairment may be necessary to conduct scheduled maintenance of equipment or to make emergency repairs. Impairment may also be due to new construction. Normal system tests and inspections are not considered impairment.

B. Regardless of the reason, impairment results in the sprinkler system and/or fire alarm system being temporarily out of service, such a condition may result in severe property loss in the event of a fire. Locations protected by automatic sprinkler systems must have an impairment handling program to control situations when sprinkler systems must be shut down.

C. Whenever a sprinkler system has been impaired all hot work in the area of the impaired system should be prohibited.

D. A periodic fire watch should be established when either the sprinkler system or the fire alarm system is out of service.

E. The State's property insurance carrier recommends an impairment handling kit. The Red Tag Permit System consists of four key elements:

1. A Red Tag Permit
2. Fire Protection Equipment Decals
3. Reusable Impairment Tag for Fire Service Connections
4. Red Tag Permit System Wall Hanger

F. The Fire Protection Equipment Decals are to be affixed to fire protection equipment as a reminder that authorization is needed before any shut down can occur.

G. The Red Tag Permit System Wall Hanger contains pockets to keep other elements of the system organized and within reach; also the Hanger lists steps to be taken before, during and after impairment. The Wall Hanger also lists the contact to be notified of the impairment.

H. There is space on the notification tag for the phone numbers of the Fire department, Alarm Company, and the local Water Department as well.

I. An engineer and/or client service representative can advise you on how to proceed and follow up until protection has been restored. In addition this representative may be able to help minimize downtime, if possible, reduce fire exposure to the area, arrange for temporary protection and determine how to restore protection as quickly as possible.

J. For scheduled maintenance of fire alarm systems, vendors must as prescribed in Rhode Island Fire Codes notify the building owner 48 hours in advance of pending maintenance.

END OF SECTION

RHODE ISLAND COLLEGE

OFFICE OF CAPITAL PROJECTS | 600 MOUNT PLEASANT AVE, PHYSICAL PLANT, PROVIDENCE, RI 02908

FIRE SPRINKLER AND ALARM SYSTEM IMPAIRMENT NOTIFICATION FORM

To: RIC Office of Capital Projects

Date: _____

Start of Planned Impairment: _____

End of Planned Impairment: _____

Building occupied during impairment: Yes:___ No:____

Any hot work to be performed: Yes:___ No:____

Description of Work to be performed:

_____

_____

_____

_____

_____

_____

_____

_____

RIC Trade & Fire Alarm Safety Manager, David Benevides, can also be directly contacted at 401-456-4747.

Contractor supervisory personnel shall remain in the building for the entire duration of the impairment.

Name: _____

Company: _____

Phone: _____

END OF ATTACHMENT

00 73 30 - PERFORMANCE BOND

1. Refer to the State Agency Solicitation provided by the State for Performance Bond requirements.

END OF DOCUMENT

00 73 31 - PAYMENT BOND

1. Refer to the State Agency Solicitation provided by the State for Payment Bond requirements.

END OF DOCUMENT

00 73 36 – PREVAILING WAGE RATES

The State of Rhode Island Department of Labor, Division of Professional Regulation General Decision Modification document is an integral part of the Bid Documents for use in fulfilling prevailing wage rate requirements. A copy is available linked to the web site of the State of Rhode Island Department of Administration, Division of Purchases. Contractors working on RI Prevailing Wage projects must adjust employee hourly rates every July 1 in accordance with updated Davis Bacon rates. These rates may be obtained at the following website:

www.wdol.gov/dba.aspx

The Division of Purchases Web Site Address is: http://www.purchasing.ri.gov/RIVIP/Info.asp

The link for the US Government prevailing wage tables is:
http://www.purchasing.ri.gov/bidinfo/geninfo/geninfo.aspx

Applicable Rhode Island labor laws may be found at: http://www.dlt.ri.gov/pw/

END OF SECTION

00 90 00 – ADDENDA AND MODIFICATIONS

PART 1 - GENERAL

A. As of the time of publication of this Project Manual, no Addenda had been issued.

B. Should Addenda be issued during the Bid Period, they will augment this Document and become a part of the Project Manual.

C. Such Addenda and Modifications when issued, with reference to the Project Manual, the General Conditions, Supplemental General Conditions, Drawings or Specifications, shall be inserted following this page and become integral parts of the Contract Documents.

END OF SECTION

01 10 00 – SUMMARY

PART 1 - GENERAL

1.1 PROJECT

A. The Project consists of the construction of the following types of work:

1. Completely remove existing roofing assembly to existing roof deck (assume metal decking and gypsum decking). Provide new 20-year, 60-mil EPDM roofing assembly with average "R"-Value of 25 (per Roof Level), consisting of: polyisocyanurate insulation, EPDM membrane roofing system, all membrane and metal flashings and counter flashings, pitch pockets, walkway pads, etc.
2. Provide roof system manufacturer's metal roof edge, new lead-coated copper flashings and counter-flashings where currently existing.
3. Provide new wood blocking at roof perimeter and elsewhere where indicated on the drawings.
4. Abatement of asbestos as described in the abatement plan, found in Section 00 31 02.
5. In addition to the Contractor's submissions to FM Global, as described in Sections 07530, EPDM Sheet Roofing System, it shall be the Contractor's responsibility to hire, bearing all associated costs, a third-party testing company whom is specialized in roof system wind-uplift testing per FM Global requirements, to complete three (3) wind-uplift ('bubble') tests on the completed roof systems, coordinating with, and submitting all results to FM Global.

1.2 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00520 - Agreement.

1.3 DESCRIPTION OF WORK

A. Scope of demolition and removal work is shown on drawings plus as specified in Section 01 83 00.

B. Scope of alterations work is shown on drawings and/or as specified herein.

1.4 SCHEDULE

A. Ordering of products, coordination and preparatory work is to commence within 7 days of receipt of Purchase Order.

B. Construction at the site shall commence May 14, 2019. Final Completion is August 14, 2019. Substantial completion date is July 31, 2019. August 14, 2019 is the date to which liquidated damages may apply and may only be adjusted as provided for in the Contract Documents; the amount for <u>each</u> calendar day of delay beyond the date for substantial completion, as determined in the sole discretion of the State: <u>$500/day</u>.
A tentative award letter is expected to be issued to the prospective Contractor and a Pre-Award Meeting scheduled by early April, 2019; a Purchase Order is expected to be issued to the awarded Contractor by the end of April, 2019; and a Pre-Construction meeting scheduled by May 1, 2019.

C. Contractor shall be responsible for completing the submittals required for issue of a Purchase Order in a timely manner. No extension will be granted for Purchasing delays.

D. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

1.5 ITEMS TO BE SALVAGED

A. Not applicable.

1.6 SUBCONTRACTOR CERTIFICATION REQUIREMENTS

A. See individual Specification sections.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 CONTRACTOR USE OF SITE AND PREMISES

A. Owner intends to continuously occupy the facility. Work areas will be made available as mutually agreed to during project scheduling.

B. Construction Operations: Limited to areas noted on Drawings. Coordinate with Site Utilization Requirements. Include in the Base Bid all costs of this coordination, including all premium time wages that may be required to meet these requirements and project schedule. Cost of all work done during second or third shifts or on weekends and holidays shall be included in the bid price.

1. Contractor shall provide appropriate masking of building supply air intakes to protect indoor air quality and limit transfer of odors. Contractor to coordinate with Owner regarding shut down of appropriate units as work continues.

C. Arrange use of site and premises to allow:

1. Adjacent projects to progress as planned for the Owner.
2. Use of street and adjacent properties by the Public.
3. Continued operation of the facility.

D. Provide access to and from site as required by law and by Owner:

1. Maintain appropriate egress for workforce and users of the facility.
2. Do not obstruct roadways, sidewalks, or other public ways without permit. Provide necessary signage and barriers to direct pedestrians around work areas.
3. Barriers and signage must be provided by the contractor to the satisfaction of the Owner to separate the work area from occupied areas. Efforts must be taken to limit dust, noise and odors from escaping the work area. Proper separation and protection of interior spaces shall be established and maintained during the project, to the satisfaction of the Owner.
4. Contractor is responsible for cleaning construction dust and/or debris from public areas and daily or at the request of the Owner. Work areas within the building shall be kept tidy at all times.
5. Contractor shall provide and maintain walk-off mats at work site entries.
6. Contractor shall erect and maintain sidewalk bridges and appropriate overhead protection at building egress locations; all entrances shall remain operational at all times.

E. Utility Outages and Shutdown:

1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days' written notice to Owner and authorities having jurisdiction.
2. Prevent accidental disruption of utility services to other facilities.
3. Contractor to provide written notification on Fire Sprinkler and Alarm System Impairment Notification Form found in Section 00 73 02.

F. Construction in Regularly Occupied Areas:

1. Activities which require work in regularly occupied spaces shall be indicated on the Two-Week Look-Ahead and confirmed with the owner at least two (2) business days in advance.

2. The safety of building occupants and construction workers is paramount. All construction activities within occupied spaces shall be marked with cones and caution tape. Computer generated signage shall be provided indicating the path of travel around construction zones, and shall also be posted at stairwell doors indicating where internal construction activities may take place.

3.2 TIME RESTRICTIONS AND WORKING HOURS

A. Disruptive Activities & Work Restrictions
   1. Limit conduct of especially noisy work when events are in process. Noise and vibration creating work restrictions are defined as follows:
      a. No restrictions: normal construction activities may take place. No restrictions on noise or vibrations. Utility shutdowns may occur following proper notifications.
      b. Quiet Work: vibration producing work may not occur. Work that generates noise that would escape the project site and cause disruption to occupants is prohibited. Disallowed activities include but are not limited to: demolition of block and concrete, use of jackhammers, saw cutting, hammer drilling, mechanical fastening and other work activities which provides loud noises or vibrations that are constant in nature.
      c. No Work: on site work is prohibited to take place during this time. Workers are prohibited from the site without prior notification to the Owner.
   2. It is the sole discretion of the Owner to determine if activities are considered disallowed during quiet work periods. The designation of disallowed activities is contingent on location within the job site and the activities of the occupants.
   3. The contractor my request a "disturbance test" which may allow for some disallowed activities to take place during quiet work times. Contractor may request with 24 hour notice to run a limited test to determine if a specific activity in a set location can be performed during quiet work periods. The owner will observe the impact on the occupied areas and determine if the activity take place. Waivers resulting from disturbance tests will be valid for a set period of time, based on construction activities and occupant usage.

B. Working Hours
   1. Standard working hours for contractors on RIC's campus are between 7am and 4:30pm. Work outside of these hours may be permitted at the Owner's discretion if approval is requested in writing via email at least 72 hours in advance. Night (after 4:30pm for this project) and weekend work needs to be coordinated with owner, at least 72 hours written notice for approval.
   2. Anticipated hours with No-Restriction shall be outside of these hours and shall be provided to the Owner as part of the Two-Week Look-Ahead described below in Schedule Coordination.
   3. Sufficient time to clean up work zones shall be allocated at the end of the shift. All construction activities within the building shall be thoroughly vacuumed, wet mopped and cleaned to the satisfaction of the Owner at the end of each shift.
   4. All construction materials, tools and debris must be removed from occupied building spaces once construction activities have ended for the day. Occupied spaces must be returned to original conditions to the greatest extent possible 7am-6pm weekdays. If it is not feasible to do as such, notify the Owner immediately. With approval, the area shall be cordoned off with cones and caution tape and computer generated signage shall be posted to the satisfaction of the Owner.

3.3 SCHEDULE COORDINATION:

A. The contractor shall provide by noon on Thursdays the two week project look ahead which lists in detail the planned activities, locations of disturbance, scheduled subcontractors and working hours for the forthcoming Sunday-Saturday. The same shall be provided for the second week, but as a working

draft. The document shall list out any utility shutdowns or other activities which require review and approval of the Owner.

3.4 SITE UTILIZATION PLAN

A. Refer to Drawings for approximate area for site staging.
   1. Contractor is responsible for protection and restoration of existing conditions including, but not limited to hardscape, landscape and lawns.
   2. Contractor shall provide six foot high construction fence that is properly secured and maintained around building in approximate locations shown on the site plan allowing access to all egress doors designated by the Owner. Provide visual screening on fence using fabric approved by the Owner.
   3. Contractor to provide overhead cover protection at all entrances and egresses from the building. Entrances and paths of egress must be clearly marked with signage with placement and language approved in advance by the Owner.
   4. Staging of equipment, dumpsters and materials must be situated within the project fenced-in areas.

B. Large deliveries of materials or equipment that may block parking or access to the parking lot area shall occur prior to 7:30am. Use of areas outside of the project area will be permitted during off-hours is permissible provided such use is coordinated with the Owner at least 72 hours in advance.

C. For activities requiring closure of the parking lot, roadways and/or walkways, the Contractor is responsible for all temporary barriers and acquiring RIC Campus Police details to route pedestrians and vehicular traffic.

D. A Site Utilization Plan shall be submitted by the Contractor within seven (7) business days of issuance of the Purchase Order for approval by the Owner. This shall include a phasing plan of roofing operations.

E. Contractor personal vehicle parking shall be in the contractor lot, located off Fruit Hill Avenue, adjacent to the Physical Plant. Contractors may not park in Parking Lot K, which is to the south of the Student Union.

END OF SECTION

01 20 00 – PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Allowances.

B. Testing and inspection allowance.

C. Schedule of values.

D. Applications for payment.

E. Warranty inspection retainage.

F. Sales tax exemption.

G. Change procedures.

H. Defect assessment.

I. Unit prices.

J. Alternates.

1.2 ALLOWANCES

A. See Bid Form for Allowance Information.

1.3 TESTING AND INSPECTION ALLOWANCE

A. Not applicable.

1.4 SCHEDULE OF VALUES

A. Submit Schedule of Values in duplicate, one copyrighted original and one copy prior to the first Application for Payment.

B. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization, bonds, insurance and closeout.

C. Include in each line item, the amount of Allowances specified in this Section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

D. Revise schedule to list approved Change Orders, with each Application for Payment.

1.5 APPLICATIONS FOR PAYMENT

A. Submit each application on an original AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet, accompanied by three copies.

1. Prepare a draft version "pencil copy" of each application and distribute via email 5 days prior to due date for review by Design Agent and Owner's representative.
2. After making agreed revisions, individually sign and notarize and emboss with notary's official seal, the original and each of the three copies. Deliver to Owner's representative for further processing and distribution.
3. Applications not including original copyrighted AIA G702, and G703 Forms, will be rejected, and returned for re-submittal.

4. Applications not properly signed and notarized will be rejected, and returned for re-submittal.
5. Applications submitted without the following items described in this section and its attachments will be returned for resubmittal.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Provide one hard copy and one copy in disc form of the updated construction schedule with each Application for Payment submission, prepared per Section 01 33 00.

D. Provide a statement signed by the Contractor's firm principal certifying that there are no unidentified outstanding claims for delay.

E. Each Application for Payment shall include Certified Monthly Payroll Records for all workers on site for the previous month. Failure to provide Certified Payroll Records with the Application for Payment submission will result in a delay in processing and may result in a reduction in the amount of said Application for Payment.

F. Submit with transmittal letter as specified for Submittals in Section 01 33 00.

G. Beginning with the second Application for Payment, Contractor's right to payment must be substantiated by documenting, on a copy of the RIC Waiver of Lien Form included in Document 00 65 19 - Waiver of Lien Form in this Project Manual, that payment monies due, less retainage not exceeding five (5) percent, have been paid in full to subcontractor and suppliers for work, materials, or rental of equipment billed for under specific line item numbers in the immediately preceding application.

H. Substantiating Data: When the Owner or Design Agent requires additional substantiating information from the review of the "pencil copy," submit data justifying dollar amounts in question.

I. In addition to the items above, include the following with the Application for Payment:
   1. Record Documents as specified in Section 01 78 00, for review by the Owner which will be returned to the Contractor.
   2. Affidavits attesting to off-site stored products with insurance certificates as requested.
   3. Digital Photographs as specified in Section 01 33 00. Include on same disc with construction schedule.

J. Payment Period: Submit at monthly intervals unless stipulated otherwise in the Supplemental General Conditions.

K. Payroll Reporting
   1. Forms for the submission of Certified Payroll Records may be found from the Rhode Island Prevailing Wage Website in either PDF or Excel formats. These forms must be used on monthly submittals.
   2. Identify Apprenticeship hours required under RIGL 37-13-3.1 for all contracts over $1million in value.
   3. A Minority Utilization Report for minority subcontractors must be included. Use the form provided as Attachment A.

1.6 WARRANTY INSPECTION RETAINAGE

A. One-half of one percent (0.05%) of the cost of the Work will be retained from Final Payment for duration of ten months. If, after ten months, all systems including mechanical and electrical, are determined by the Owner to be properly functioning, the Warranty Inspection Retainage will be released.

B. If, after ten months, there are found to be modifications, adjustments, or corrections necessary to be made to address any system or product malfunction, in order to fulfill specified performance or requirements of such systems or products, release of the warranty inspection retainage will be delayed until such malfunctions are rectified.

C. If, after twelve months from the date of Final Completion, all systems have not been fully addressed, the Owner may utilize the Warranty Inspection Retainage to hire others to execute necessary modifications, adjustments, or corrections.

1.7 SALES TAX EXEMPTION

A. Owner is exempt from sales tax on products permanently incorporated in Work of the Project.

1. Obtain sales tax exemption certificate number from Owner.
2. Place exemption certificate number on invoice for materials incorporated in the Work of the Project.
3. Furnish copies of invoices to Owner.
4. Upon completion of Work, file a notarized statement with Owner that all purchases made under exemption certificate were entitled to be exempt.
5. Pay legally assessed penalties for improper use of exemption certificate number.

1.8 CHANGE PROCEDURES

A. Submittals: Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. The Design Agent will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time by issuing supplemental instructions on AIA Form G710.

C. The Design Agent may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required, and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 15 days.

D. The Contractor may propose changes by submitting a request for change to the Design Agent, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation, and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01 60 00.

E. Stipulated Sum Change Order: Based on Proposal Request, and Contractor's fixed price quotation, or Contractor's request for a Change Order as approved by Design Agent.

F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute the Work under a Construction Change Directive. Changes in the Contract Sum or Contract Time will be computed as specified for a Time and Material Change Order.

G. Construction Change Directive: Design Agent may issue a directive, on AIA Form G713 Construction Change Directive signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in the Contract Sum or Contract Time. Promptly execute the change.

H. Time and Material Change Order: Submit an itemized account and supporting data after completion of the change, including timeslips signed by Owner's representative, within the time limits indicated in the Conditions of the Contract. The Design Agent will determine the change allowable in the Contract Sum and Contract Time as provided in the Contract Documents. Only Owner-representative-signed timeslips will be considered.

I. Maintain detailed records of work done on a Time and Material basis. Submit timeslips daily for verification and sign-off by Owner's representative on-site. Provide full information required for an evaluation of the proposed changes, and to substantiate costs for the changes in the Work.

J. Document each quotation for a change in cost or time with sufficient data to allow an evaluation of the quotation. Provide detailed breakdown of costs and estimates for labor and materials including a detailed breakdown for subcontractor's or vendor's Work. Include copies of written quotations from subcontractors or vendors.

K. Change Order Forms: AIA G701 Change Order.

L. Change Order Markup:
   1. For the Contractor, for Work performed by the Contractor's own forces, 10 percent of the cost.
   2. For the Contractor, for Work performed by the Contractor's Subcontractor, 6 percent of the amount due the Subcontractor.
   3. For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, 10 percent of the cost.
   4. For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors, 6 percent of the amount due the Sub-subcontractor.
   5. Overhead and profit is to include the Contractor's project management and supervisory costs, all administrative expenses and personnel, change estimate preparation, mobilization, setup & breakdown, meetings, all safety related costs, cleanup costs and storage costs pertaining to the changes in the work.
   6. The fee increase to any permit required by the additional work is allowed to be added to the Change Order costs. However, the Contractor is required to submit proof that the additional fee was paid to the presiding authority.
   7. In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over $500.00 be approved without such itemization.

M. Execution of Change Orders: The Design Agent will issue Change Orders for signatures of the parties as provided in the Conditions of the Contract.
   1. The approved Change Order amount shall include all compensation to the Contractor, including but not limited to Overhead and Profit, General Conditions, Material, Labor, Equipment and other costs. Following the execution of the Change Order, no additional compensation for the work covered in the Change Order shall be considered.

N. Correlation Of Contractor Submittals:
   1. Promptly revise the Schedule of Values and the Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum. Promptly revise progress schedules to reflect any change in the Contract Time, revise sub-schedules to adjust times for any other items of work affected by the change, and resubmit.
   2. Promptly enter changes in the Project Record Documents.

1.9 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Design Agent, it is not practical to remove and replace the Work, the Design Agent will direct an appropriate remedy or adjust payment.

C. The defective Work may remain, but the unit sum will be adjusted to a new sum at the discretion of the Design Agent.

D. The defective Work will be partially repaired to the instructions of the Design Agent, and the unit sum will be adjusted to a new sum at the discretion of the Design Agent.

E. The individual Specification Sections may modify these options or may identify a specific formula or percentage sum reduction.

F. The authority of the Design Agent to assess the defect and identify a payment adjustment, is final.

G. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines and levels of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected products.

1.10 UNIT PRICES

A. See Section 01 22 00.

1.11 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at the Owner's option. Accepted Alternates will be identified in the Purchase Order.

B. Coordinate related work and modify surrounding work as required.

C. Schedule of Alternates: See Section 01 23 00

PART 2 - PRODUCTS - NOT USED.

PART 3 - EXECUTION - NOT USED.

END OF SECTION

MBE COMPLIANCE FORM

MBE Compliance Office
www.mbe.ri.gov (website)
1 Capitol Hill, 2nd Floor
Providence, RI 02908
401-574-8670, 401-574-8387 (fax)

Pursuant to RIGL 37-14.1 as well as the regulations promulgated thereto, the MBE Compliance Office requires that you complete the following table. Please note that these figures will be verified with the MBEs identified. If there are outstanding issues, such as retainage or a dispute, please indicate and attach supporting documentation for same. Also note that copies of invoice and cancelled checks for payment to all MBE subcontractors and suppliers are required.

Contractor/Vendor Name: _____

Project Name & Location: _____

Original Prime Contract Amount _____

Current Prime Contract Amount: _____

MBE/WBE Subcontractor	Original Contract Amount	Change Orders	Revised Contract Value	% To Date Completed	Amount Paid To Date	Amount Due	Retainage %	Retainage Amount	Explanation

I declare, under penalty of perjury, that the information provided in this verification form and supporting documents is true and correct.

_____ Signature

_____ Date

_____ Printed Name

Notary Certificate:

Sworn before me this _____ day of _____ , 20__.

_____ Notary Signature

_____ Commission Expires

01 22 00 – UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 01 2000 "Price & Payment Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Excavation quantities shall be measured on a volume basis as computed from original in-place position. Fill quantities shall be measured on a volume basis as computed from in-place position.

C. No removed material shall be calculated against more than one category of allowance.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Contractor's Unit Price Note: The following Unit Prices are intended to provide the Owner with predetermined prices should changes to the Base Bid Contract be required. The Owner reserves the right to include any Unit Price Item for adding or deleting work. The Contractor agrees to modify his Base Bid by the shown amount.

1. Deduct from the Bid Price, the cost to replace the existing perimeter wood blocking in accordance with the Bid Documents. **Note: The Base Bid includes all perimeter wood blocking to be replaced.**

   Continuous perimeter wood nailers shall be 2"x12" Douglas Fir or Southern Yellow Pine. Height shall match insulation board surface to which membrane is to be applied.

   DEDUCT: $_____/linear ft.

2. Deduct from the Bid Price, the cost to replace the existing perimeter aluminum-wrapped wood fascia in accordance with the Bid Documents. **Note: The Base Bid includes all perimeter fascia to be replaced.**

   DEDUCT: $_____/linear ft.

3. Add to or Deduct from the Bid Price, the cost to provide new pre-fabricated insulated rooftop unit (RTU) curb assembly in accordance with the Bid Documents. **Note: The Base Bid includes 50% of all RTU curbs to be replaced.**

   ALLOW: $_____/RTU curb

4. Add to or Deduct from the Bid Price, the cost to provide metal roof deck repairs in accordance with the Bid Documents. **Note: The Base Bid includes 500 square feet of metal roof decking to be replaced.**

   ALLOW: $_____/square ft.

5. Add to or Deduct from the Bid Price, the cost to provide gypsum roof deck repairs in accordance with the Bid Documents. **Note: The Base Bid includes 1,200 square feet of gypsum roof decking to be replaced.**

   ALLOW: $_____/square ft.

END OF SECTION

01 23 00 – ALTERNATES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Description of alternates.

1.2 RELATED REQUIREMENTS

A. Document 00 2113 - Instructions to Bidders: Instructions for preparation of pricing for alternatives.

1.3 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each alternate.

1.4 **SCHEDULE OF ALTERNATES**

A. Add to the Base Bid price all specified work involving **Roof Level 13** (Add Alt. #1).

B. Add to the Base Bid price all specified work involving **Roof Level 7** (Add Alt. #2).

C. Add to the Base Bid price all specified work involving **Roof Level 8** (Add Alt. #3).

D. Add to the Base Bid price all specified work involving **Roof Level 9** (Add Alt. #4).

NOTE: ADDITIVE (ADD) ALTERNATES SHALL NOT BE INCLUDED IN THE BASE BID PRICE.

END OF SECTION

01 30 00 – ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Site administration

B. Coordination and project conditions.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Pre-installation meetings.

1.2 SITE ADMINISTRATION

A. Maintain a daily attendance log to include the names of all project employees and guests to the site. Each guest signing the log should indicate a brief description of the reason for the visit, the guest's employer or organization. The log sheet, or sheets, must clearly indicate the Project Name, and the name of the general Contractor. Each line in the log should allow for the name of that employee, the employee's job title (use terminology used by prevailing wage job title), and the name of that employee's employer. This log shall be kept on a uniform form prescribed by the Director of Labor and Training. Such log shall be available for inspection on the site at all times by the Purchaser, Owner, and/or the Director of the Department of Labor and Training and his or her designee. Provide copies when requested.

B. Daily Attendance Form

1. Maintain Daily Attendance Form acceptable to the Department of Labor and Training for all projects with a contract value over $1 Million. Submit as requested.

1.3 COORDINATION AND PROJECT CONDITIONS

A. Coordinate the scheduling, submittals, and the Work of the various Sections of the Project Manual to ensure an efficient and orderly sequence of the installation of interdependent construction elements.

B. Verify that the utility requirements and characteristics of the operating equipment are compatible with the building utilities. Coordinate the Work of the various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate the space requirements, supports and installation of the mechanical and electrical Work, which are indicated diagrammatically on the Drawings. Follow the routing shown for the pipes, ducts, and conduit, as closely as practicable; place runs parallel with the lines of the building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. Coordinate the completion and clean-up of the Work of the separate Sections in preparation for Substantial Completion and for portions of the Work designated for the Owner's partial occupancy.

E. After the Owner's occupancy of the premises, coordinate access to the site for correction of defective Work and the Work not in accordance with the Contract Documents to minimize disruption of the Owner's activities.

1.4 PRECONSTRUCTION MEETING

A. The Design Agent will schedule a meeting after a Purchase Order is issued to the Contractor.

B. Attendance Required: Owner's Representative, Design Agent, and Contractor.

C. Agenda:

1. Distribution of the Contract Documents.
2. Submission of a list of Subcontractors, a list of products, schedule of values, and a progress schedule.
3. Designation of the personnel representing the parties in the Contract and the Design Agent.
4. The procedures and processing of the field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures.
5. Scheduling.

D. Contractor shall record the minutes and distribute copies within two days after the meeting to the participants, with copies to the Design Agent, Owner, other participants, and those consultants affected by the decisions made.

1.5 SITE MOBILIZATION MEETING

A. The Design Agent will schedule a meeting at the Project site prior to the Contractor's occupancy and may occur at the same time as the Preconstruction meeting noted above.

B. Attendance Required: The Owner, Design Agent, Contractor, the Contractor's Superintendent, and major Subcontractors.

C. Agenda:

1. Use of the premises by the Owner and the Contractor.
2. The Owner's requirements and partial occupancy.
3. Construction facilities and controls provided by the Owner.
4. Temporary utilities provided by the Owner.
5. Security and housekeeping procedures.
6. Schedules.
7. Application for payment procedures.
8. Procedures for testing.
9. Procedures for maintaining the record documents.
10. Requirements for the start-up of equipment.
11. Inspection and acceptance of the equipment put into service during the construction period.

D. Contractor shall record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Owner, other participants, and those consultants affected by the decisions made.

1.6 PROGRESS MEETINGS

A. Schedule and administer the meetings throughout the progress of the Work at weekly intervals while work is in process.

B. Make arrangements for the meetings, prepare the agenda with copies for the participants, and preside at the meetings.

C. Attendance Required: The job superintendent, major subcontractors and suppliers, the Owner, Design Agent, and Consultants as appropriate to agenda topics for each meeting.

D. Agenda:
   1. Review the minutes of previous meetings.
   2. Review of the Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of the problems which impede the planned progress.
   5. Review of the submittals schedule and status of the submittals.
   6. Review of delivery schedules.
   7. Maintenance of the progress schedule.
   8. Corrective measures to regain the projected schedules.
   9. Planned progress during the succeeding work period.
   10. Coordination of the projected progress.
   11. Maintenance of the quality and work standards.
   12. Effect of the proposed changes on the progress schedule and coordination.
   13. Other business relating to the Work.

E. Contractor shall record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Consultants, Owner, participants, and others affected by the decisions made.

1.7 PREINSTALLATION MEETINGS

A. When required in the individual specification Sections or listed below, convene a pre-installation meeting at the site prior to commencing the Work of the Section. Pre-installation Meetings:
   1. The following items of work will require pre-installation meetings:

B. Require attendance of the parties directly affecting, or affected by, the Work of the specific Section.

C. Notify the Design Agent four days in advance of the meeting date.

D. Prepare an agenda and preside at the meeting:
   1. Review the conditions of installation, preparation and installation procedures.
   2. Review coordination with the related work.

E. Record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Owner, participants, and those Consultants affected by the decisions made.

PART 2 - PRODUCTS - NOT USED.

PART 3 - EXECUTION - NOT USED.

END OF SECTION

01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed products list.

D. Product data.

E. Shop drawings.

F. Design Data.

G. Samples.

H. Test reports.

I. Certificates.

J. Manufacturer's instructions.

K. Manufacturer's field reports.

L. Digital Photographs.

M. Erection drawings.

N. Construction photographs.

1.2 SUBMITTAL PROCEDURES

A. Master List Submittal:

1. Submit a master list of the required submittals with a proposed date for each item to be submitted. See Attachment A for initial minimum list on which to base master.
2. Show the date submittal was sent, days since submittal was sent, status of submittal, date submittal was received in return, and any date associated with resubmittals.
3. Update master list with each submission and response.
4. Issue copy of master list at least monthly to the Design Agent.

B. Transmit each submittal with a dated Design Agent-accepted transmittal form.

C. Transmit printed copies and electronic PDF copy of each submittal to the Design Agent for review and comment as outlined in each section below.

D. Sequentially number the transmittal form. Mark revised submittals with an original number and a sequential alphabetic suffix.

E. Identify the Project, Contractor, subcontractor and supplier; the pertinent drawing and detail number, and the specification Section number, appropriate to the submittal.

F. Apply a Contractor's electronic stamp certifying that the review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of the information is in accordance with the requirements of the Work and the Contract Documents.

G. Schedule submittals to expedite the Project, and deliver to the Design Agent's FTP site. Coordinate the submission of related items.

H. For each submittal, allow 15 days for review.

I. Identify all variations from the Contract Documents and any Product or system limitations which may be detrimental to a successful performance of the completed Work.

J. Allow space on the submittals for the Contractor's, Design Agent's, and Consultant's electronic review stamps.

K. When revised for resubmission, identify the changes made since the previous submission.

L. Distribute copies of the reviewed submittals as appropriate. Reproduce as necessary to inform subcontractors without internet download capabilities. Instruct the parties to promptly report any inability to comply with the Contract requirements.

M. Produce additional copies as required for the Record Document purposes as described in Section 01 78 00.

1.3 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within 20 days after Date of Commencement for Design Agent to review. After a review, submit detailed schedules within 15 days modified to accommodate the revisions recommended by the Design Agent and Owner.

B. Distribute copies of the reviewed schedules to the Project site file, subcontractors, suppliers, and other concerned parties. Instruct the recipients to promptly report, in writing, the problems anticipated by the projections indicated in the schedules

C. Submit updated schedules with each Application for Payment, identifying changes since previous version as follows:

1. Indicate the progress of each activity to the date of submittal, and the projected completion date of each activity.
2. Identify the activities modified since the previous submittal, major changes in the scope, and other identifiable changes.
3. Provide a narrative report to define the problem areas, the anticipated delays, and impact on the Schedule. Report the corrective action taken, or proposed, and its effect including the effect of changes on the schedules of separate contractors.

D. Submit a computer-generated horizontal bar chart with separate line for each major portion of the Work or operation, identifying the first work day of each week.

E. Show a complete sequence of construction by activity, identifying the Work of separate stages and other logically grouped activities. Indicate the early and late start, the early and late finish, float dates, and duration. Critical path items shall be clearly identified.

F. Indicate an estimated percentage of completion for each item of the Work at each submission.

G. Provide a separate schedule of submittal dates for shop drawings, product data, and samples, including Owner-furnished Products and Products identified under Allowances, if any, and the dates reviewed submittals will be required from the Design Agent. Indicate the decision dates for selection of the finishes.

H. Indicate the delivery dates for Owner furnished Products, and for Products identified under Allowances.

1.4 PROPOSED PRODUCTS LIST

A. Within 20 days after the Date of Commencement, submit a list of major products proposed for use, with the name of the manufacturer, the trade name, and the model number of each product.

B. For the products specified only by reference standards, give the manufacturer, trade name, model or catalog designation, and reference standards.

C. With each product listed, indicate the submittal requirements specified to be adhered to, and an indication of relevant "long-lead-time" information, when appropriate.

1.5 PRODUCT DATA

A. Product Data: Submit to the Design Agent for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Provide copies and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

B. Submit one (1) printed copy and one (1) electronic PDF copy for review. The Design Agent will retain the reviewed printed copy for record and return the reviewed electronic PDF copy to the Contractor for distribution.

C. Mark each copy to identify the applicable products, models, options, and other data. Supplement the manufacturers' standard data to provide the information specific to this Project.

D. Indicate the product utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

E. After a review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01 78 00.

1.6 SHOP DRAWINGS

A. Shop Drawings: Submit to the Design Agent for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

B. Submit two (2) printed copies and one (1) electronic PDF copy for review. The Design Agent and /or Consultants will retain the reviewed printed copies for record and return the reviewed electronic PDF copy to the Contractor for distribution.

C. Indicate the special utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

1.7 SAMPLES

A. Samples: Submit to the Design Agent for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Produce duplicates and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

B. Samples for Selection as Specified in Product Sections:
   1. Submit to the Design Agent for aesthetic, color, or finish selection.
   2. Submit samples of the finishes in the colors selected for the Design Agent's records.
   3. After review, produce duplicates and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

C. Submit samples to illustrate the functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate the sample submittals for interfacing Work.

D. Include identification on each sample, with the full Project information.

E. Submit at least the number of samples specified in the individual specification Sections; the Design Agent will retain two samples.

F. Reviewed samples, which may be used in the Work, are indicated in the individual specification Sections.

G. Samples will not be used for testing purposes unless they are specifically stated to be in the specification Section.

1.8 TEST REPORTS

A. Submit (1) printed and (1) electronic PDF lab reports in accordance with Section 01 40 00.

B. Submit test reports for information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.9 DESIGN DATA

A. Submit (1) printed and (1) electronic PDF data for the Design Agent's knowledge as contract administrator for the Owner.

B. Submit information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.10 CERTIFICATES

A. When specified in the individual specification Sections, submit (1) printed and (1) electronic PDF certification by the manufacturer, installation/application subcontractor, or the Contractor to the Design Agent in the quantities specified for the Product Data.

B. Indicate that the material or product conforms to or exceeds the specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on the material or product, but must be acceptable to the Design Agent and its Consultants.

1.11 MANUFACTURER'S INSTRUCTIONS

A. When specified in the individual specification Sections, submit (1) printed and (1) electronic PDF copy of instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to the Design Agent for delivery to the Owner in the quantities specified for Product Data.

B. Indicate the special procedures, and the perimeter conditions requiring special attention, and the special environmental criteria required for application or installation.

1.12 MANUFACTURER'S FIELD REPORTS

A. Submit (1) printed and (1) electronic PDF of reports for the Design Agent's benefit as contract administrator for the Owner.

B. Submit the report within 30 days of observation to the Design Agent for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.13 DIGITAL PHOTOGRAPHS

A. Submit minimum 12 digital photographs of construction progress each month on the same CD as the project schedule submittal. Include both jpg. and reduced-size pdf versions for email use.

B. Include an additional minimum of 12 photographs documenting underground utilities when installed in relationship to visible site features.

C. Include photographs of important in-wall or ceiling utilities before close-in at appropriate stages of construction.

D. See Section 01 78 00 for close-out copy requirements of these files.

1.14 PRECONSTRUCTION VIDEO

A. Conduct a pre-construction survey of the project side and areas immediately adjacent to the site. Submit two (2) copies of the video on DVD to the Owner.

1.15 ERECTION DRAWINGS

A. When specified in the individual Specification sections, the trade contractors shall submit (1) printed and (1) electronic PDF copy of erection drawings for review prior to proceeding with fabrication and/or construction.

B. Erection drawings shall be prepared in accordance with the latest edition of the respective trades' codes of standard practice.

C. All erection drawings shall be fully developed by the trade contractors or by agents of the contractors. CAD files, photocopies, or other reproductions of the contract drawings in whole or in part shall not be used by the trade contractors or their agents for the preparation and development of erections drawings without the expressed written consent of the Design Agent.

1.16 SUBMITTAL LIST

A. All new products proposed for installation.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality control and control of installation.

B. Verification of Credentials and Licenses.

C. Tolerances

D. References.

E. Testing and inspection services.

F. Manufacturers' field services.

G. Mock-up Requirements.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor a quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of the specified quality.

B. Comply with all manufacturers' instructions and recommendations, including each step in sequence.

C. When the manufacturers' instructions conflict with the Contract Documents, request a clarification from the Design Agent before proceeding.

D. Comply with the specified standards as a minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform the Work by persons qualified to produce the required and specified quality.

F. Verify that field measurements are as indicated on the Shop Drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 VERIFICATION OF CREDENTIALS AND LICENSES

A. The Owner has implemented a project management oversight process and is applying it to current construction projects at RIC.

B. An element of this oversight process is the verification that persons employed on the project site have appropriate and current credentials and licenses in their possession, at the project site, for the work they are performing.

C. Be forewarned that state resident inspectors will be checking for verification of credentials and licenses of both union and non-union persons, in their onsite inspections.

D. State resident inspectors will also be reviewing Contractor's Certified Monthly Payroll Records for conformance with RI State Prevailing Wage Rate requirements.

E. Those persons without the appropriate credentials and licenses will be subject to dismissal from the project site.

1.4 TOLERANCES

A. Monitor the fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with the manufacturers' tolerances. When the manufacturers' tolerances conflict with the Contract Documents, request a clarification from the Design Agent before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.5 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standard, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by the date of issue current on the date of the Contract Documents, except where a specific date is established by code.

C. Obtain copies of the standards where required by the product specification Sections.

D. When the specified reference standards conflict with the Contract Documents, request a clarification from the Design Agent before proceeding.

E. Neither the contractual relationships, duties, or responsibilities of the parties in the Contract, nor those of the Design Agent, shall be altered from the Contract Documents by mention or inference otherwise in reference documents.

1.6 TESTING AND INSPECTION SERVICES

A. The Contractor will submit the name of an independent firm to the Design Agent for approval by the Owner, to perform the testing and inspection services.

1. Base Bid Testing Requirements List. The Contractor shall pay for all the services required in the Base Bid as described:

a. Not applicable.

2. Additional Owner-Authorized Testing Requirements List Contractor shall coordinate any Owner-authorized additional testing also described to be paid for from Testing Allowance:

a. Not applicable.

B. The independent firm will perform the tests, inspections and other services specified in the individual specification Sections and as required by the Design Agent or its Consultants.

1. Laboratory: Authorized to operate in the location in which the Project is located.
2. Laboratory Staff: Maintain a full time registered Engineer on staff to review the services.
3. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to either the National Bureau of Standards or to the accepted values of natural physical constants.

C. Testing, inspections and source quality control may occur on or off the project site. Perform off-site testing as required by the Design Agent or the Owner.

D. Reports will be submitted by the independent firm to the Design Agent, the Consultant for that trade, and the Contractor, in duplicate, indicating the observations and results of tests and indicating the compliance or non-compliance with Contract Documents.

E. Cooperate with the independent firm; furnish samples of the materials, design mix, equipment, tools, storage, safe access, and the assistance by incidental labor as requested.

1. Notify the Design Agent and Engineer and the independent firm 24 hours prior to the expected time for operations requiring services.
2. Make arrangements with the independent firm and pay for additional samples and tests required for the Contractor's use.

F. Testing and employment of the testing agency or laboratory shall not relieve the Contractor of an obligation to perform the Work in accordance with the requirements of the Contract Documents.

G. Re-testing or re-inspection required because of a non-conformance to the specified requirements shall be performed by the same independent firm on instructions by the Design Agent or its Consultant. Payment for the re-testing or re-inspection will be charged to the Contractor by deducting the testing charges from the Contract Sum.

H. Agency Responsibilities:
1. Test samples of mixes submitted by the Contractor.
2. Provide qualified personnel at the site. Cooperate with the Design Agent or its Consultant and the Contractor in performance of services.
3. Perform specified sampling and testing of the products in accordance with the specified standards.
4. Ascertain compliance of the materials and mixes with the requirements of the Contract Documents.
5. Promptly notify the Design Agent, Consultant and the Contractor of observed irregularities or non-conformance of the Work or products.
6. Perform additional tests required by the Design Agent or its Consultants.
7. Attend the preconstruction meetings and the progress meetings.

I. Agency Reports: After each test, promptly submit two copies of the report to the Design Agent, appropriate Consultant, and to the Contractor. When requested by the Design Agent, provide an interpretation of the test results. Include the following:
1. Date issued.
2. Project title and number.
3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and specifications section.
6. Location in the Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

J. Limits On Testing Authority:
1. Agency or laboratory may not release, revoke, alter, or enlarge on the requirements of the Contract Documents.
2. Agency or laboratory may not approve or accept any portion of the Work.

K. Agency or laboratory may not assume any duties of the Contractor.

L. Agency or laboratory has no authority to stop the Work.

1.7 MANUFACTURERS' FIELD SERVICES

A. When specified in the individual specification Sections, require the material or Product suppliers, or manufacturers, to provide qualified staff personnel to observe the site conditions, the conditions of the surfaces and installation, the quality of workmanship, the start-up of equipment, or test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit the qualifications of the observer to the Design Agent 30 days in advance of the required observations. Observer is subject to approval of the Design Agent.

C. Report the observations and the site decisions or instructions given to the applicators or installers that are supplemental or contrary to the manufacturers' written instructions.

D. Refer to Section 01 33 00 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

1.8 MOCK-UP REQUIREMENTS

A. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Accepted mock-ups shall be a comparison standard for the remaining Work.

C. Where mock-up has been accepted by Architect and is no longer needed, remove mock-up and clear area when directed to do so.

PART 2 - PRODUCTS NOT USED.

PART 3 - EXECUTION NOT USED.

END OF SECTION

01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:
   1. Temporary electricity.
   2. Temporary lighting for construction purposes.
   3. Temporary heating.
   4. Temporary cooling.
   5. Temporary ventilation.
   6. Telephone service.
   7. Temporary water service.
   8. Temporary sanitary facilities.

B. Construction Facilities:
   1. Field offices and sheds.
   2. Hoisting.
   3. Parking/Traffic.
   4. Progress cleaning and waste removal.
   5. Project identification.
   6. Traffic regulation.

C. Temporary Controls:
   1. Barriers.
   2. Enclosures and fencing.
   3. Security.
   4. Fire detection.
   5. Water control.
   6. Dust control.
   7. Erosion and sediment control.
   8. Noise control.
   9. Pest control.
   10. Pollution control.
   11. Rodent control.

D. Removal of utilities, facilities, and controls with reseeding and repair of grounds.

E. See Attachment A for any modifications.

1.2 TEMPORARY ELECTRICITY

A. The Owner will pay the cost of energy used. Exercise measures to conserve energy. Utilize the Owner's existing power service.

B. Complement the existing power service capacity and characteristics as required for construction operations.

C. Provide power outlets, with branch wiring and distribution boxes located at each floor or as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment. All flexible power cords shall be suspended with hangers to eliminate trip hazards.

D. Provide main service disconnect and over-current protection at a convenient location or a feeder switch at the source distribution equipment or meter.

E. Permanent convenience receptacles may not be utilized during construction.

F. Provide distribution equipment, wiring, and outlets to provide single-phase branch circuits for power. Provide 20-ampere duplex outlets, single-phase circuits for power tools.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain incandescent lighting for construction (interior & exterior) operations to achieve a minimum lighting level of 2 watt/sq. ft. (21 watt/sq m).

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

C. Maintain lighting and provide routine repairs.

D. Permanent building lighting may be utilized during construction where not removed.

1.4 TEMPORARY HEATING

A. Existing facilities will be occupied and heated by the College when temperatures require. Take care to avoid leaving doors open in exterior walls that could compromise heating operations. For new construction, the cost of energy will be borne by the Contractor. Provide temporary heating as necessary for construction operations.

B. Supplement with temporary heat devices if needed to maintain the specified conditions for construction operations even in existing buildings.

C. Maintain a minimum ambient temperature of 50 degrees F in the areas where construction is in progress, unless indicated otherwise in the product Sections.

D. In areas of work with mechanical hot-air heating, clean units and replace filters after Substantial Completion.

E. Do not use new equipment for heating after replacement during construction.

1.5 TEMPORARY COOLING

A. Existing facilities are not available.

B. Provide and pay for cooling devices and cooling as needed to maintain the specified conditions for construction operations.

C. Maintain a maximum ambient temperature of 80 degrees F in the areas where construction is in progress, unless indicated otherwise in the specifications.

1.6 TEMPORARY VENTILATION

A. Ventilate the enclosed areas to achieve a curing of materials, to dissipate humidity, and to prevent the accumulation of dust, fumes, vapors, or gases.

B. If existing ventilation fans are used during construction, clean fans in areas of work after Substantial Completion.

1.7 TELEPHONE SERVICE

A. Provide, maintain, and pay for cell phone service to the field supervisor at the time of project mobilization.

1.8 TEMPORARY WATER SERVICE

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

B. Extend branch piping with outlets located so that water is available by hoses with threaded connections. Provide temporary pipe insulation if needed to prevent freezing.

1.9 TEMPORARY SANITARY FACILITIES

A. Contractor needs to provide and maintain temporary toilet facilities for use by all construction personnel. Trades people will not be permitted to use existing facilities within the building.

1.10 FIELD OFFICES AND SHEDS

A. Do not use existing facilities for storage. Job meetings will be held on campus at a location to be chosen by the College.

B. Storage Areas and Sheds: Size to the storage requirements for the products of the individual Sections, allowing for access and orderly provision for the maintenance and for the inspection of Products to the requirements of Section 01 60 00. Containers will be permitted within the project limit line.

C. Preparation: Fill and grade the sites for the temporary structures to provide drainage away from the buildings.

D. Removal: At the completion of the Work remove the buildings, foundations, utility services, and debris. Restore the areas.

1.11 HOISTING

A. Contractor is responsible for all hoisting required to facilitate, serve, stock, clean, and complete the Work. Include all costs for Operating Engineers, fuel, delivery and removal, mobilization, staging, protection of grades and surfaces, and equipment.

1.12 PARKING/TRAFFIC

A. Workers must park in lots assigned by the College with daily permits. See Site Utilization Plan.

B. Use of designated existing on-site streets and driveways for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.

C. Do not allow heavy vehicles or construction equipment in parking areas.

D. Do not allow vehicle parking on existing sidewalks.

E. Provide and maintain access to fire hydrants and control valves free of obstructions.

F. Remove mud from construction vehicle wheels before entering streets. Cleanup dirt, rocks, and debris left on street from construction vehicles.

G. Use designated existing on-site roads for construction traffic.

H. Maintenance:

1. Maintain the traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain the paving and drainage in original, or specified, condition.

I. Removal, Repair:
   1. Remove temporary materials and at Substantial Completion.
   2. Remove underground work and compacted materials to a depth of 2 feet; fill and grade the site as specified.
   3. Repair existing and permanent facilities damaged by use, to the original or specified condition.

1.13 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain the site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other remote spaces, prior to enclosing the space.

C. Broom and vacuum clean the interior areas prior to the start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from the site daily, as necessary to prevent an on-site accumulation of waste material, debris, and rubbish, and dispose off-site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.14 TRAFFIC REGULATION

A. Signs, Signals, And Devices:
   a. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by local jurisdictions.
   b. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.
   c. Flag person Equipment: As required by local jurisdictions.
   d. Police Details: Provide all police details as required by local jurisdictions, including payment directly to applicable jurisdiction. **For this project, coordinate with RIC campus police, city, and state as required.**

B. Flag Persons: Provide trained and equipped flag persons to regulate the traffic when construction operations or traffic encroach on the public traffic lanes.

C. Flares and Lights: Use flares and lights during the hours of low visibility to delineate the traffic lanes and to guide traffic.

D. Haul Routes:
   1. Consult with the authority having jurisdiction, establish the public thoroughfares to be used for haul routes and site access.

E. Traffic Signs and Signals:
   1. At approaches to the site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct the construction and affected public traffic.
   2. Install and operate automatic traffic control signals to direct and maintain the orderly flow of traffic in areas under the Contractor's control, and areas affected by the Contractor's operations.
   3. Relocate as the Work progresses, to maintain effective traffic control.

F. Removal:
   1. Remove equipment and devices when no longer required.
   2. Repair damage caused by installation.
   3. Remove post settings to a depth of 2 feet.

1.15 BARRIERS

A. Provide barriers to allow for the Owner's use of the site and to protect existing facilities and adjacent properties from damage from the construction operations, or demolition.

B. Provide barricades and covered walkways required by RIC for public rights- of-way, or for public access to the building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.16 ENCLOSURES AND FENCING

A. Construction: Provide 6-ft. high commercial grade chain link fence, with privacy scrim around on-site equipment or areas of site disturbance for the period required to protect work and the public. Equip with vehicular and pedestrian gates with locks. Provide one set of keys to all gates and door locks to the Owner.

B. Perform adjustment to the proposed layout as may be directed by the Owner.

C. Interior Enclosures:
   1. Provide temporary partitions and ceilings as indicated to separate the work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to the existing materials and equipment.
   2. Construction: Framing and reinforced polyethylene, plywood, or gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces, as agreed with the Owner:
   3. Maximum flame spread rating of 75 in accordance with ASTM E84.

1.17 SECURITY

A. Security Program:
   1. Protect the Work, the existing premises, or the Owner's operations from theft, vandalism, and unauthorized entry.
   2. Initiate the program in coordination with the Owner's existing security system at mobilization.
   3. Maintain the program throughout the construction period until Owner occupancy of each designated area.

B. Entry Control: Coordinate the access of the Owner's personnel to the site in coordination with the Owner's security forces.

1.18 FIRE DETECTION

A. Before beginning any construction operation that can potentially trigger the existing fire alarm detection system, notify the Owner through use of the form provided in Section 01 10 00.

B. Failure to so notify the Owner will subject the Contractor to a monetary fine for each occurrence, should the fire detection system be activated inadvertently by a construction activity.

C. Comply with the Owner's insurance underwriting standards and insurer recommendations for Hot Work, sprinkler impairment, and site maintenance.

1.19 WATER CONTROL

A. Grade the site to drain. Maintain excavations free of water. Provide, operate, and maintain the pumping equipment.

B. Protect the site from puddling or running water. Provide water barriers as required to protect the site from soil erosion.

1.20 DUST CONTROL

A. Execute the Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into the atmosphere.

1.21 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

B. Minimize the amount of bare soil exposed at one time.

C. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.

D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

E. Periodically inspect the earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.22 CLEANING

A. Contractor to maintain a neat and orderly work site. Trash shall be cleaned from site and surrounding area on a daily basis.

B. For projects within occupied buildings, contractor shall sweep and wet mop all floors on a daily basis for impacted spaces. Surfaces of desks, tables, etc. shall be covered during construction and cleaned of dust and debris.

1.23 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by the construction operations.

1.24 PEST CONTROL

A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work, or entering the facility.

1.25 POLLUTION CONTROL

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

1.26 RODENT CONTROL

A. Provide methods, means, and facilities to prevent rodents from accessing or invading the premises.

1.27 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials, prior to Substantial Completion.

B. Remove the underground installations to a minimum depth of 2 feet. Grade the site as indicated.

C. Clean and repair the damage caused by installation or use of temporary work.

D. Restore the existing and new facilities used during construction to their original condition.

E. Restore any temporary exterior laydown or storage areas to the original condition. After each use, regrade and reseed as required to meet this requirement.

PART 2 - PRODUCTS - NOT USED.

PART 3 - EXECUTION - NOT USED.

END OF SECTION

01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

1.2 PRODUCTS

A. Products: Means new material, machinery, components, fixtures, or systems forming the Work; but does not include the machinery or equipment used for the preparation, fabrication, conveying, or erection of the Work. Products may include the existing materials or components required or specified for reuse.

B. Furnish products of qualified manufacturers suitable for the intended use. Furnish products of each type by a single manufacturer unless specified otherwise.

C. Do not use materials and equipment removed from the existing premises, except as specifically permitted by the Contract Documents.

D. Furnish interchangeable components of the same manufacturer for the components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with the manufacturer's instructions.

B. Promptly inspect shipments to ensure that the products comply with the requirements, the quantities are correct, and the products are undamaged.

C. Provide equipment and personnel to handle the products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect the products in accordance with the manufacturers' instructions.

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to the product.

D. For exterior storage of fabricated products, place on sloped supports above the ground.

E. Provide bonded off-site storage and protection when the site does not permit on-site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent the condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store the products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of the products to permit access for inspection. Periodically inspect to verify that the products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of the manufacturers named and meeting the specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify the time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this section.

B. Substitutions may be considered after the bid only in the following circumstances:
   1. When a product becomes no longer in production following the date of receipt of the Purchase Order for this Contract. Submit certification both that specified product was carried in Bid, and is no longer obtainable. Provide cost change documentation.
   2. There is a significant cost savings offered to the Owner. Provide price comparison of both bid and offered substitution products as well as all collateral costs of the change.
   3. Code changes or site conditions require a different item from that bid. Submit as for 2 above.

C. Document each request with complete data substantiating the compliance of a proposed Substitution with the Contract Documents.

D. A request constitutes a representation that the Bidder:
   1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the Substitution as for the specified Product.
   3. Will coordinate the installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the Owner, including redesign.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse the Owner and the Design Agent for review or redesign services, including those associated with re-approval by the authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on the Shop Drawing or Product Data submittals, without a separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure, If Permitted Following Contract Award:
   1. Submit three copies of a request for Substitution for consideration, no later than 20 working days following date of receipt of the Purchase Order for this Contract. Limit each request to one proposed Substitution. Identify product of fabrication or installation method to be replaced. Include Specification Section number and title and Drawing number and title.
   2. Submit the Shop Drawings, Product Data, and the certified test results attesting to the proposed product equivalence. The burden of proof is on the proposer.
   3. The Design Agent will notify the Contractor in writing of a decision to accept or reject the request. Costs for review time on unsuccessful requests will be included in the next change order.

PART 2 - PRODUCTS

A. No variations in this section for this Project.

PART 3 - EXECUTION – NOT USED

END OF SECTION

01 70 00 – EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Examination.

B. Preparation.

C. Field Engineering.

D. Protection of adjacent construction.

E. Cutting and patching.

F. Special procedures.

G. Starting and adjusting of systems.

H. Demonstration and Instructions.

I. Testing, adjusting and balancing.

J. Protecting Installed Construction.

1.2 EXAMINATION

A. Acceptance of Conditions:

1. Verify that existing applicable site conditions, substrates, or substrate surfaces are acceptable or meet specific requirements of individual specifications Sections, for subsequent Work to proceed.
2. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
3. Examine and verify specific conditions described in individual specifications Sections.
4. Verify that utility services are available, of correct characteristics, and in correct locations.
5. Beginning of new Work, that relies upon the quality and proper execution of Work of a preceding trade, means acceptance of that preceding Work as appropriate for the proper execution of subsequent Work.
6. Acceptance of preceding Work that can be shown later to have adversely affected proper performance of new Work may result in removal and repeat performance of all Work involved at no cost to the Owner.

1.3 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply substrate primer, sealer, or conditioner, required or recommended by manufacturer, prior to applying any new material or substance in contact or bond.

D. Prior to the application, installation, or erection of any products and product components, perform any other preparatory operations, or surface or substrate modifications, as may be specified or directed by product manufacturers.

1.4 FIELD ENGINEERING

A. Employ a Land Surveyor registered in the State of Rhode Island and acceptable to Design Agent and the Owner.

B. Locate and protect survey control and reference points. Promptly notify Design Agent of any discrepancies discovered.

C. Control Datum for survey is to be agreed to with the Design Agent.

D. Verify setbacks and easements, if any; confirm drawing dimensions and elevations.

E. Provide field-engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit a copy of site drawings and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

G. Maintain a complete and accurate log of control and survey work as it progresses.

H. If required by the Owner, on completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

I. Protect survey control points prior to starting site work; preserve permanent reference point during construction.

J. Promptly report to Design Agent the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

K. Replace dislocated survey control point based on original survey control. Make no changes without prior written notice to Design Agent.

1.5 PROTECTION OF ADJACENT CONSTRUCTION

A. Protect existing adjacent properties and provide special protection where specified in individual Specification Sections.

B. Provide protective coverings at wall, projections, jambs, sills, and soffits of existing openings.

C. Protect existing finished floors, stairs, and other existing surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

D. Cover and protect furnishings, materials and equipment within the spaces receiving new work. Move items as necessary to install new work and return them to original locations at the close of construction in that area.

E. Repair adjacent properties damaged by construction operations to original condition to the satisfaction of the Owner.

F. Prohibit unnecessary traffic from existing landscaped areas.

G. Restore grassed landscaped areas damaged by construction operations to full healthy growth, by installing loam and sod to the requirements, and under the supervision of, the University's Associate Director of Lands and Grounds.

1.6 CUTTING AND PATCHING

A. Employ skilled and experienced installers to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements which affect:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight-exposed elements.
   5. Existing construction, or Work of separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute Work by methods that will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

E. Cut masonry, concrete, and other rigid materials using masonry saw or core drill.

F. Remove ceiling tiles as necessary to access areas of work. Store and replace carefully to avoid damage. Replace all ceiling tiles damaged during the work with new tiles to match. Repair ACT grid damaged during the work in accordance with this section.

G. Restore Work with new Products in accordance with requirements of Contract Documents.

H. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

I. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

J. At penetration of fire rated partitions, ceiling, or floor construction, completely seal voids with fire rated or fire resistant material in accordance with Specifications, to full thickness of the penetrated element.

K. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

L. Identify any hazardous substance or conditions exposed during the Work to the Owner and Design Agent for decision or remedy.

M. See General Conditions for additional requirements.

1.7 SPECIAL PROCEDURES

A. Materials: As specified in product Sections; match existing with new products, or salvaged products as appropriate, for patching and extending work.

B. Employ skilled and experienced installer to perform alteration work.

C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

D. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

E. Remove debris and abandoned items from area and from concealed spaces.

F. Prepare surface and remove surface finishes to provide installation of new Work and finishes.

G. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.

H. Remove, cut, and patch Work in a manner to minimize damage and to provide means of restoring products and finishes to original or specified condition.

I. Refinish existing visible surfaces to remain in renovated rooms and spaces to specified condition for each material, with a neat transition to adjacent finishes.

J. Where new Work abuts or aligns with existing, provide a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

K. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and submit recommendation to Design Agent for review.

L. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition to Design Agent for review.

M. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.

N. Patch or replace portions of existing surfaces which are damaged, or showing other imperfections.

O. Finish surfaces as specified in individual product Sections, or as indicated on the Drawings.

1.8 STARTING AND ADJUSTING OF SYSTEMS

A. Coordinate schedule for starting and adjusting of various equipment and systems.

B. Notify Design Agent and Owner seven days prior to starting and adjusting of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.

D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute starting and adjusting under supervision of responsible Contractor's personnel or manufacturer's representative, in accordance with manufacturer's instructions.

G. Adjust operating Products and equipment to ensure smooth and unhindered operation.

H. When specified in individual specifications Section, require manufacturer to provide authorized representative to be present at the site to inspect, check, and approve equipment or system installation prior to starting, and to supervise placing of equipment or system in operation.

I. Submit a written report in accordance with Section 01 40 00 that equipment or system has been properly installed and is functioning correctly.

1.9 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manuals with Owner's personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate start-up, operation, control, adjustment, trouble shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled or agreed upon times, at equipment or system location.

E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.10 TESTING, ADJUSTING, AND BALANCING

A. Submit, for the Owner's approval, the name of an independent firm to perform testing, adjusting and balancing of systems. The independent firm's services will be paid for by the Contractor.

B. The independent firm will perform services specified in individual specifications Sections.

C. Reports will be submitted by the independent firm to the Design Agent and the Owner indicating observations and test results, indicating compliance or non-compliance with specified requirements and with the requirements of the Contract Documents.

1.11 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Repair or replace installed Work damaged by construction operations, as directed by the Design Agent.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

01 74 00 – WASTE MANAGEMENT

PART 1 - GENERAL

1.1 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:

1. Aluminum and plastic beverage containers.
2. Corrugated cardboard.
3. Wood pallets.
4. Clean dimensional wood: May be used as blocking or furring.
5. Land clearing debris, including brush, branches, logs, and stumps.
6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
7. Glass.
8. Gypsum drywall and plaster.
9. Plastic buckets.
10. Paper, including wrapping, newsprint, and office.

E. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports. Submit in accordance with Section 01 33 00.

F. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.

G. Methods of trash/waste disposal that are not acceptable are:

1. Burning on the project site.
2. Burying on the project site.
3. Dumping or burying on other property, public or private.
4. Other illegal dumping or burying.

H. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 70 00 - Execution Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.3 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.4 SUBMITTALS

A. See Section 01 33 00 for submittal procedures.

B. Waste Management Plan: Include the following information:

1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.

4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

C. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.

1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
2. Submit Report on a form acceptable to Owner.
3. Landfill Disposal: Include the following information:

a. Identification of material.
b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

4. Incinerator Disposal: Include the following information:

a. Identification of material.
b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

5. Recycled and Salvaged Materials: Include the following information for each:

a. Identification of material, including those retrieved by installer for use on other projects.
b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.

6. Material Reused on Project: Include the following information for each:

a. Identification of material and how it was used in the project.
b. Amount, in tons or cubic yards.
c. Include weight tickets as evidence of quantity.

7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 WASTE MANAGEMENT PROCEDURES

A. See Section 01 10 00 for list of items to be salvaged from the existing building for relocation in project or for Owner.

B. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

D. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

E. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

B. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

C. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

D. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

E. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

F. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

G. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

01 77 00 – CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures and submittals.

B. Quality assurance.

C. Maintenance service.

D. Owner's Manual

1. Operations and maintenance manuals.
2. Materials and finishes manuals.
3. Equipment and systems manuals.

E. Spare parts and maintenance materials.

F. Product warranties and product bonds.

G. Project Record documents.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Individual Product Sections: Specific requirements for operation and maintenance data.

C. Individual Product Sections: Warranties required for specific products or Work.

1.3 CLOSEOUT PROCEDURES AND SUBMITTALS

A. The Owner will occupy all portions of the building after Substantial Completion as specified in Section 01 10 00.

B. Closeout Submittals

1. Submit a written certification that the Contract Documents have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the Contract Documents and is ready for the Owner's review.
2. Provide submittals to Design Agent that are required by governing or other authorities, including abatement documentation, including but not limited to waste manifests, air clearance testing reports and other documentation correctly prepared as proscribed in the abatement plan. Failure to include correctly prepared abatement documentation will delay issuing of final payment.
3. Provide submittals to Design Agent that are required by the governing or other authorities, including the following closeout documents:

a. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims

b. AIA Document G706A - Contractor's Affidavit of Release of Liens

c. AIA Document G707 - Consent of Surety to Final payment

4. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
5. Owner's Manual

6. Spare Parts and Maintenance Products
7. Product Warranties and Product Bonds
8. Project Record Documents

1.4 QUALITY ASSURANCE

A. Employ personnel assembling submittals experienced in the maintenance and the operation of the described products and systems.

1.5 OWNER'S MANUAL

A. Submit the data for Operations and Maintenance, Materials and Finishes, and Equipment and Systems Manuals bound in 8-1/2 x 11 inch text pages, in minimum 2 inch size three D side ring commercial quality binders with durable cleanable plastic covers.

B. Prepare binder covers with the printed title of the manual, title of the project, and the subject matter of binder. Label each spine with the following: Building, project or facility name, OCP project number, submission date.

C. Submit two (2) copies of a preliminary draft of the proposed formats and outline of the contents before the start of work. The Design Agent and its consultants will review drafts and return one (1) copy with comments. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten (10) days after acceptance.

D. Submit one (1) copy of the completed volumes fifteen (15) days prior to final inspection for final review. This copy will be reviewed and returned after final inspection, with the Design Agent's comments. Revise the content of the document sets as required prior to final submission.

E. Submit three (3) sets of revised final volumes plus electronic copy in final form within ten (10) days after final inspection.

F. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

1. Equipment List

a. Provide a summary list of all equipment installed during the work: provide a list in Microsoft Excel of installed equipment, including make, model name, model number, serial number, location and area served. Include names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

b. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

c. Each Item of Equipment and Each System: Include a description of the unit or system, and the component parts. Identify the function, normal operating characteristics, and limiting conditions. Include performance curves, with priming data and tests, and complete nomenclature and model number of replaceable parts.

d. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

e. Include color-coded wiring diagrams as installed.

f. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.

g. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
h. Include a servicing and lubricating schedule, and a list of lubricants required.
i. Include the manufacturer's printed operation and maintenance instructions.
j. Include sequence of operation by the controls manufacturer.
k. Include the original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
l. Include control diagrams by the controls manufacturer as installed.
m. Include the Contractor's coordination drawings, with color-coded piping diagrams as installed.
n. Include charts of valve tag numbers, with the location and function of each valve, keyed to the flow and control diagrams.
o. Include a list of the original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
p. Include test and balancing reports as specified in Section 01 40 00.
q. Additional Requirements: As specified in the individual product specification Sections.

2. Operations and Maintenance Manuals

a. **Part 1:** Directory, listing the names, addresses, and telephone numbers of the Design Agent, its Consultants, Contractor, Subcontractors, and major equipment suppliers.
b. **Part 2:** Operation and maintenance instructions arranged by system and subdivided by the specification Section. For each category, identify the names, addresses, and telephone numbers of the Subcontractors and suppliers. Identify the following:
    1. Significant design criteria.
    2. List of equipment.
    3. Parts list for each component.
    4. Operating instructions.
    5. Maintenance instructions for equipment and systems.
    6. Maintenance instructions for [special] finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
c. **Part 3:** Project documents and certificates, including the following:
    1. Shop drawings and product data.
    2. Air and water balance reports.
    3. Certificates.
    4. Originals of warranties and bonds.

3. Materials and Finishes Schedule

a. Building Products, Applied Materials, and Finishes: Include product data, with the catalog number, size, composition, and the color and texture designations. Include information for re- ordering custom manufactured products.
b. Instruction for Care and Maintenance: include manufacturer's instructions for cleaning agents and methods, precautions against detrimental agents and methods, and a recommended schedule for cleaning and maintenance.

c. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

d. Additional Requirements: As specified in the individual product specification Sections.

e. Include a listing in the Table of Contents for design data, with a tabbed flysheet and a space for the insertion of data.

4. Drawings: Provide with reinforced punched binder tab. Bind in with the text; fold the larger drawings to the size of the text pages.

1.6 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products (attic stock) in the quantities specified in the individual specification Sections.

B. Deliver to the Project site and place in a location as directed by the Owner; obtain a receipt prior to final payment.

1.7 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Warranty period shall commence at date of substantial completion.

B. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

C. Retain warranties and bonds until time specified for submittal.

D. Execute and assemble the transferable warranty documents and bonds from the subcontractors, suppliers, and manufacturers.

E. Verify that the documents are in the proper form, contain full information, and are notarized.

F. Include in the Operations and Maintenance Manuals within the appropriate material specification section, indexed separately on Table of Contents.

G. Closeout Submittals Warranties and Bonds:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

1.8 PROJECT RECORD DOCUMENTS

A. Maintain on the site one set of the following record documents; record actual revisions of the Work for all trades:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.

5. Reviewed Shop Drawings, Product Data, and Samples.
6. Manufacturer's instructions for assembly, installation, and adjusting.

B. Ensure the entries are complete and accurate, enabling future reference by the Owner.

C. Store the record documents separate from the documents used for construction.

D. Record information concurrent with the construction progress, not less than weekly.

E. Specifications: Legibly mark and record at each product Section description of the actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record the actual construction including:
   1. Measured horizontal and vertical locations of the underground utilities and appurtenances, referenced to permanent surface improvements. Include the locations and description of any existing utility lines and other existing installations of any kind or description encountered during construction. Note all changes in size, material, location, and elevation of all new or abandoned underground utility lines and pertinent work, including site grading. Document topography and drainage changes. Show the location of all valves, manholes, etc. and include dimensions to permanent features such as building corners. Note direction of each new valve opening. Show clearances between new utilities and existing crossed lines. Locate all bends, thrust blocks, and other restraints.
   2. The placement, size, and type of any fire extinguishers.
   3. Measured locations of internal utilities and appurtenances concealed in the construction.
   4. Field changes of dimension and detail.
   5. Details not on the original Contract drawings.

G. Legibly marked Specifications, and legibly marked Record Drawings and Shop Drawings shall constitute the Project Record Documents in paper form.

H. Closeout Submittals: Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
   1. Submit two (2) electronic copies and one (1) print copy of all documents.
   2. At completion of the Work of the Contract, the Contractor shall retain competent drafting personnel to transfer the information from the Project Record Documents in paper form to editable electronic formats to create "As-Built" Documents on base files provided by the Design Agent. The record construction drawings shall be produced in both AutoCAD format plus a record PDF copy of each drawing. AutoCAD files shall include all XREF, font, image, shape, and plot files. PDF files shall be saved full sheet size. The record Project Manual shall be in Microsoft Word form plus a record PDF of the entire manual. The electronic media containing this information will constitute the Project Record Documents in digital form, sometimes referred to as the "As-Built" Documents. Acceptable media are write-protected CD-R format discs or flash drives. Submit one full size printed set of drawings and specifications on 20 lb. white bond made from the As-Built files in addition to the electronic media.
   3. Associated materials including but not limited to the following are also required to be submitted at project close-out: shop drawings and cut sheets, RFIs, correspondence and

meeting minutes, LEED scorecards, construction progress photographs, DEM permits including generator permits, certificates including Final Certificate of Occupancy, boiler and elevator certificates, easement rights, National Grid Rebate Applications, test and inspection documentation including fire pump test data, asbestos abatement plans and manifests. These materials may be submitted in either paper or PDF digital format, organized by specification number, and clearly labeled. If paper copies are submitted, each box must be clearly labeled as to specific contents.

4. If the project required geotechnical, archeological, or other miscellaneous studies or other reports, these shall also be submitted as Record Document in either paper or digital format.

I. Labeling: In all cases, paper or digital submissions must contain the following information: Building, project or facility name, OCP Project number, submission date, and specific content index.

J. No review or receipt of Project Record Documents by the Design Agent or the Owner shall be interpreted as a waiver of any deviation from the Contract Documents or Shop Drawings, or in any way relieve the Contractor from responsibility to perform the Work in accordance with the Contract Documents and the Shop Drawings.

K. Update the on-site Project Record Documents on a regular basis. Monthly payments will not be processed if Project Record Documents are not maintained up to date

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

01 80 00 - SPECIAL CONDITIONS

1. PROJECT SITE

Roof Replacement at
Roberts Hall
Rhode Island College
Capital Projects Administration
600 Mount Pleasant Avenue
Welcome Center 304
Providence, Rhode Island

2. TIME FOR COMPLETION

A. Start of construction: Within 7 days of issued Purchase Order. On site construction may not begin until May 15, 2019. Substantial completion shall be **July 31, 2019**. Final completion: **August 14, 2019.**

B. It is the Bidders' responsibility to anticipate and include, in their bid, allowances for normal weather conditions as necessary to complete the work. No claim for extra compensation or extension of time will be allowed on account of the contractor's failure to allow for normal seasonal weather conditions.

C. This time period was established using normal material ordering and delivery conditions and holidays for the time of the year that the work is expected to be undertaken. Construction is expected to begin on or around **May 14, 2019**.

D. The *Rhode Island College* (the Owner), may at its sole discretion, agree to suspend work if weather conditions prevent the work from progressing in a satisfactory manner.

The contractor shall not be entitled to extra compensation for any reasons if the work is suspended by the *State of Rhode Island* for the reasons stated above.

3. LIQUIDATED DAMAGES

A. As actual damages for any delay in completion are impossible to determine, the Contractor and his sureties shall be liable for and shall pay to *Rhode Island College* the sum of $250 as fixed, agreed, and liquidated damages for each calendar day of delay until the work is substantially completed.

4. COMMUNICATIONS

A. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing.

B. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Contract (or at such other office as he may from time to time designate in writing to the Authority) or deposited in the United States mail in a sealed, postage-prepaid envelope, or if delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.

any telegraph company for transmission, in each case addressed to such office.

C. All papers required to be delivered to the Authority or Architect shall, unless otherwise specified in writing to the Contractor, be delivered to the contracting office at *Rhode Island College, Capital Projects Administration, 600 Mount Pleasant Avenue, Providence, RI 02908* and any notice to or demand upon the Authority or Architect shall be sufficiently given if so delivered, or deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said. *Rhode Island College* as such address or to such other representatives of the Authority or to such other address as the Authority may subsequently specify in writing to the Contractor for such purpose.

D. Any such notice shall be deemed to have been given as of the time of actual delivery; or, in the case of mailing, when the same should have been received in due course of post; or, in the case of telegrams, at the time of actual receipt.

5. MINIMUM RATES OF PAY

A. Refer to Section 00601 herein.

6. VISIT TO THE SITE

A. Each bidder is to visit the site, view the existing areas and acquaint himself with all of the conditions under which the work is to be performed. Failure of the Contractor to acquaint himself with all the conditions involved will not relieve him from fulfilling the Contract in all its details.

7. CONDUCT OF THE WORK

A. During the progress of the Work, the Contractor shall so conduct his work that as little inconvenience as possible is caused to the occupants. At the close of the work each day, the Contractor shall pick up and stow all equipment and miscellaneous material leaving the site in a neat and safe condition.

8. WORKING HOURS

A. Regular working hours are between 7:30 a.m. and 4:00 p.m., Monday through Friday. If the Contractor finds it necessary to work other than regular working hours, he must obtain a written approval in advance from the User Agency

B. Days which the State is closed because of holidays will also be a day of non-work for the general contractor.

C. If necessary to complete work on nights or weekends, Contractor shall inform the Owner 72 hours in advance of night or weekend to allow time for supervisory personnel.

9. PROTECTION OF PEOPLE AND PROPERTY

A. The Contractor shall be solely responsible for initiating, maintaining and supervising safety, security and protection programs and shall comply with all applicable laws, ordinances, rules and regulations concerning safety of people and the protection of

property.

B. The Contractor shall repair or replace, at his own expense, with new any item, surface, or object that is damaged by the Contractor or damaged because of the Contractor's actions during the course of the Work and during any guarantee period.

C. Site and building conditions shall be restored to their condition as they were at the start of the Work. Before commencing work, the Contractor shall report any existing damage to the Architect in writing to assure that the Contractor will not be liable for preexisting damage.

D. The Contractor shall, at his own expense, repair or replace with new any item, surface, or object that is damaged by the Contractor or damaged because of the Contractor's actions during the course of the Work and during any guarantee period.

10. SIGNS

A. No signs except for safety signs will be allowed to be displayed on the site or on the building.

11. INSURANCE

A. Refer to the State Agency Solicitation provided by the State for Insurance requirements.

12. DRAWINGS

A. Structural drawings need not show architectural finishes. Architectural drawings need not show completed structural and/or mechanical or electrical installation or vice versa.

B. Architectural drawings shall have precedence over all other drawings. Architect shall make final decision when precedence is questioned.

C. All work drawn on Plans and not specified, or all work specified and not drawn are part of Contract Work required to be completed and are to be executed as fully as if described in both of these ways. Only work specifically noted in the following manner shall be considered as not being in the contract.

"...by Owner"

"...NIC" (Not In Contract)

D. If, after examination of Contract Drawings and Specifications, or after a visit to the premises, any discrepancies, omissions, ambiguities, or conflicts are found in or about Contract Documents or there is doubt as to their meaning, Architect is to be notified at the earliest possible date prior to the Bid Opening. Where information sought is not clearly indicated or specified, the Architect shall issue an addendum to the Bidders clarifying conditions. The addendum shall become part of the Contract Documents. Neither the Owner nor the Architect shall be responsible for any oral instructions.

E. If there are two ways and/or instruction in drawings and/or specifications, it shall be assumed that the Contractor has based his base bid price on the most expensive way.

F. If duplication is shown on drawings and/or specifications of work by more than one trade, Architect shall determine which trade shall complete the work and rebate shall be provided from the other trades to Owner.

G. Excerpts From Chapter 1 to 6 of Title of the General Laws of Rhode Island 1956

1. The attentions of the General Contractor is hereby directed to excerpts from Chapters 1 to 6 of title 7 of the General Laws of Rhode Island 1956 relative to the conditions precedent, etc. to carrying on business within the State for Foreign Corporations.

2. The certificate and power of attorney mentioned in the General Corporations Law, properly filled out, subscribed and sworn to and accompanied by a certified copy of the charter, articles or association, or other similar organization papers, together with all amendments, must be filed in the Office of the Secretary by all foreign corporations intending to carry on business within this State, or for a foreign corporation to enforce in the courts of this State any Contract made within the State.

3. Detailed information regarding Chapters 1 to 6 of Title 7 of the General Laws of Rhode Island, 1956, relative to the conditions precedent, etc., to carrying on business with the State for Foreign Corporations may be obtained from the Secretary of State, State House, Smith Street, Providence, Rhode Island.

13. CONTRACTOR'S AGREEMENT

A. During the performance of this contract, the Contractor agrees to comply with all provisions of Executive Order 11246, as amended, relative to the Equal Employment Opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the Secretary of Labor.

B. In the event of the Contractor's non-compliance with the non-discrimination clauses of this contract or with any such rules, regulations or orders, this contract may be canceled.

14. STATE SALES TAX AND USE TAX EXEMPTION

A. Bidders and their subcontractors and material suppliers shall not include in their Bids, any Rhode Island State Sales and Use Taxes relative to the performance of the Work that is covered by the exemption.

15. NOTICE OF EQUAL OPPORTUNITY

A. The Bidder's attention is directed to the fact that it will be required to comply with the State's equal opportunity employment, employment of the handicapped, age discrimination, and provide a certificate of non-segregated facilities in accordance with Appendix A- General Conditions of Purchase of the State of Rhode Island Procurement Regulations.

B. This Contractor shall also comply with the applicable requirements of R.I. Gen Laws Section 37-14.1-1 and 37-14.1-8 relating to Minority Business Enterprise and all rules and regulations promulgated thereunder.

END OF SECTION

01 81 00 – CLEANING UP

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work Included: Throughout the construction period, maintain the building and site in a standard of cleanliness as described in this Section.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other sections of these specifications.

1.02 QUALITY ASSURANCE:

A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.

B. In addition to the standards described in this section, comply with pertinent requirements of governmental agencies having jurisdiction.

1.03 RESPONSIBILITIES OF THE CONTRACTOR:

A. The General Contractor shall be responsible for the work of this Section, however, each subcontractor engaged upon the work shall bear his/her full responsibility in cleaning up immediately each day upon completion of his work in accordance with the provisions of this Section or other applicable Sections of the Specifications and shall cooperate with the Contractor to that effect.

B. The above shall in no way be construed to relieve the Contractor of his responsibility for leaving all work in a clean and proper condition, satisfactory to the Owner and the A/E.

1.04 REQUIREMENTS OF REGULATORY AGENCIES:

A. Safety Standards: Maintain project in accordance with the following safety and insurance standard: Federal Occupational Safety and Health Act - Latest Edition.

B. Fire Protection: Store volatile waste in approved metal containers, and remove from premises daily.

C. Pollution Control: Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.

1. Burning or burying of rubbish and waste materials on project site is not permitted.
2. Disposal of volatile fluid wastes (such as mineral spirits, oil or paint thinner) in storm sanitary sewer systems or into streams or waterways is not permitted.

PART 2 - PRODUCTS:

2.01 CLEANING MATERIALS:

A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

B. Use cleaning materials only on surfaces recommended by cleaning materials manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION:

A. Oversee cleaning and insure that building and grounds are maintained free from accumulations of waste material and rubbish.

B. Sprinkle dusty debris with water and calcium chloride as needed. Calcium chloride shall be utilized only as directed by the Architect.

C. At reasonable intervals daily, during the progress of work, clean up site and access and dispose of waste materials, rubbish and debris.

D. Do not allow waste material, rubbish and debris to accumulate and become an unsightly or hazardous condition.

E. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.

F. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for acceptance or occupancy.

G. Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet newly painted surfaces.

3.02 FINAL CLEANING:

A. Use experienced workmen, or professional cleaners for final cleaning.

B. At completion of construction and just prior to acceptance or occupancy, conduct a final inspection of exposed exterior and interior surfaces.

C. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from interior and exterior surfaces.

D. Repair, patch and touch-up marred surfaces to match adjacent surfaces.

E. Broom clean paved surfaces; rake clean other surfaces of grounds, daily.

F. Replace air conditioning filters if units were operated during construction.

G. Clean ducts, blowers and coils if air conditioning units were operated without filters during construction.

H. Maintain cleaning until the building or portion thereof is occupied by the Owner.

END OF SECTION

01 82 00 - PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Any damage to buildings, roads, public roads, bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

PART 2 – PRODUCTS:

B. Not Applicable To This Section

PART 3 - EXECUTION

A. Not Applicable To This Section

END OF SECTION

01 83 00 - DEMOLITION AND REPAIR

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Carefully demolish and remove from the building and site those items specified to be demolished and removed. Provide patching and repairs to all surfaces as indicated and as required for a complete and proper job.

B. Demolition shall not begin within the construction area or any other portions of the job site until all materials needed to complete the affected areas have been delivered to the job site.

C. Scope: The demolition and repair work generally consists of, but is not necessarily limited to that work described and shown on the drawings:

1. The work of this section also consists of, but is not necessarily limited to that work described in Section 01 10 00, Summary of the Work and elsewhere herein.

D. Related Work:

1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.
2. Section 01 85 00: Cutting and Patching.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

PART 2 - PRODUCTS

2.01 GENERAL

A. Match existing materials unless otherwise specified.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS:

A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 DEMOLITION

A. By careful study of the Contract Documents, determine the location and extent of selective demolition and repairs to be performed.

B. Prepare and follow an organized plan for demolition and removal of items:

1. Shut off, cap, and otherwise protect existing utility lines.

2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.

3. Where indicated on the drawings, completely remove footings, foundations, and above-ground and under-ground construction of all kinds.

4. Remove rocks larger than 6" diameter, roots, and debris.

5. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.

C. The Contractor shall be responsible for the removal and disposal of all materials and equipment from the site and building during the project. Unless directed otherwise by the Owner, all demolition materials to be removed from the site shall be disposed of in accordance with applicable laws and regulations.

D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

E. Demolished material shall be considered to be the property of the Contractor unless Owner otherwise directs Contractor, and shall be completely removed from the job site. The Contractor shall, prior to any removal of rubbish from the site, furnish written evidence satisfactory to the Architect and/or Owner, that he has disposed of all debris from his demolition in an approved dumping location. **Owner shall have first right of refusal of any and all materials and equipment scheduled for removal.**

F. All demolition work shall be carried on in such a manner that the existing building and site and their component parts will not be damaged. Any damage to the building shall be corrected by the Contractor, to the satisfaction of the Owner and Architect, at no additional cost to the Owner.

G. Demolition of any of the material to be removed shall be carefully scheduled so that no portion of the buildings shall remain unprotected from the weather when work is not in progress. The Contractor and/or Subcontractor shall have on hand at all times, temporary covers and other materials to make weather tight areas that may be without protection in the event of a sudden shower, snowfall, freezing weather, etc.

3.02 REPLACEMENTS

A. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the approval of the Architect and at no additional cost to the Owner.

3.03 CUTTING, PATCHING, REPAIR

A. Patch and repair all surfaces damaged as a result of the work of this Contract. When completed, patches or repairs shall not be visible to the naked eye from a distance of 6 feet.

END OF SECTION

01 84 00 - PERMITS AND FEES

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall apply for, obtain and pay for all required permits and fees and shall arrange and schedule all inspections required.

B. No work shall begin until all pertinent permits are obtained.

C. The building permit shall be posted in a location that is protected from the weather and clearly visible from the exterior of the building.

D. The Contractor shall submit a copy of the building permit to the Architect and Owner.

PART 2 - PRODUCTS

Not Applicable To This Section

PART 3 - EXECUTION

Not Applicable To This Section

END OF SECTION

01 85 00 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SUMMARY

A. Provide cutting and patching work to properly complete the work of the project, complying with the applicable project requirements for:

1. Structural work.
2. Mechanical/Electrical Systems.
3. Visual requirements, including detailing and tolerances.
4. Operational and safety limitations.
5. Fire-resistance ratings.
6. Inspection, preparation, and performance.
7. Cleaning.

B. Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease energy performance, increase maintenance, decrease operational life, or decrease safety performance.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Match existing materials for cutting and patching work with new materials conforming to project requirements.

PART 3 – EXECUTION

3.01 INSPECTION

A. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.

B. After uncovering work, inspect the conditions affecting the installation of products, or performance of the work.

C. Report unsatisfactory or questionable conditions to the A/E in writing; do not proceed with the work until the A/E has provided further instructions.

3.02 PREPARATION:

A. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the work.

B. Provide devices and methods to protect other portions of the project from damage.

C. Provide protection from the elements for that portion of the project which may be exposed by cutting and patching work and maintain excavations free from water.

3.03 PERFORMANCE:

A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.

B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.

C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.

D. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents.

E. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.

F. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes.

1. For continuous surfaces, refinish to nearest intersection.
2. For an assembly, refinish the entire unit.

END OF SECTION

SECTION 02100

SITE PREPARATION

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Provide all labor, equipment and materials necessary to complete all site preparation work indicated on the drawings, herein specified, or both.

B. Site preparation operations include, but are not limited to the following:

1. Disposal of waste materials
2. Disposal of excess materials
3. Protecting trees and vegetation
4. Landscaping repairs

C. Existing improvements that interfere with new work shall be carefully removed and then re-installed at completion of new work.

D. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of this section.

B. Comply with pertinent requirements of governmental agencies having jurisdiction.

1.03 PRODUCT HANDLING:

A. Comply with pertinent provisions of Section 01 60 00.

1.04 JOB CONDITIONS:

A. Protection of Existing Improvements:

1. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing improvements and trees.

2. Restore any improvements damaged by this work to their original conditions, as acceptable to the Owner and Architect

3. Where and when applicable, Contractor shall contact “Dig-Safe” at 1-800-225-4977, at least three business days prior to any excavation. NOTE: If “Dig-Safe” will not perform the work, the Contractor shall engage the services of a State-licensed “below-grade utility locating company” to perform the required work of this section. Do so at no additional cost to the contract.

B. Protection of Existing Trees and Vegetation:

1. Protect existing trees and vegetation including root system, from damage.

2. Do not stockpile construction materials or excavated materials within drip lines of trees to remain.

3. Do not allow excess foot or vehicular traffic or parking of vehicles within drip line of trees to remain.

4. Provide temporary fences, barricades or barriers as required to protect trees and vegetation to remain.

5. Provide protection for roots and branches over 1-1/2 inches in diameter that are cut during construction and clearing operations. Coat the cut faces with an emulsified asphalt, or other acceptable coating especially formulated for horticultural use on cut or damaged Plant tissues. Temporarily cover all exposed roots from drying out, and provide earth cover as soon as possible.

6. Repair or replace trees and vegetation damaged by construction operations in a manner acceptable to the Owner and the A/E.

C. Maintenance of Traffic, Access and Utilities:

1. Throughout the progress of the work, do not interfere with use of or access to adjacent buildings or property.

2. Do not close or otherwise obstruct sidewalks without obtaining advanced permission from the Owner to do so.

3. Maintain accessibility to any fire hydrants any emergency vehicles, personnel, and equipment within the construction area.

PART 2 – PRODUCTS

2.01 LOAM

A. Acceptable loam to be furnished and loam that is stripped from the site shall be a “fine sandy loam” determined by Mechanical analysis and based on the “U.S.D.A. Classification System”. Unacceptable stripped loam shall be disposed of as directed by the Owner. All loam, new and on-site (reused), shall be of uniform composition, without admixture or subsoil. It shall be free of stones greater than one inch, lumps, plants and their roots, debris and other extraneous matter over 1-1/2” in diameter or excess quantities of smaller pieces of the same materials as determined by the Architect. It shall not contain toxic substances harmful to plant growth or humans. It shall be obtained from naturally well drained areas which have never been stripped before and have a history of satisfactory vegetable growth. All loam will be borrow and shall have an acidity range of pH 5.0 to pH 7.0.

2.02 GRASS SEED:

A. Provide fresh, clean, new crop seed for lawns. Provide the composition of the following varieties, mixed in the indicated proportions and tested to the indicated minimum percentages:

1.

% by Weight	Types	% Purity	% Germination
25%	Marion Kentucky Bluegrass	85%	80%

25%	Kentucky Bluegrass	85%	80%
50%	Chewing's Fescue	98%	85%
	or		
	Creeping Red Fescue	98%	85%

2.03 LIME

Lime for all horticultural purposes shall consist of a standard commercial product of ground agricultural limestone intended for agricultural use. It shall be fine ground dolomite such that, when "burned" by standard lime producing methods, it shall yield at least 30% calcium oxide and 5-20% magnesium oxide. At least 40% but not more than 60% shall pass through a 100-mesh screen and all shall be able to pass a 20-mesh screen

2.04 FERTILIZER:

A. Tree fertilizer shall be 8-yr. Feeder Packet (analysis: N-16%, P_2 O_5 - 8%, K_2O - 16%). Unique Fertilizers, Inc. or equal as approved by the A/E.

B. Commercial Fertilizer: Shall contain at least 10% available nitrogen of which 30% shall be in a slow-releasing form as is found in certain urea-form products or natural organic forms, or a combination of both. Commercial fertilizer shall also contain at least 6% available phosphoric acid, at least 4% available potassium, and significant quantities of trace elements such as iron, boron, etc.

C. Unless otherwise specified, fertilizer meeting these requirements shall be applied at the rate of 1,000 pounds per acre. If substantially stronger fertilizer is used, application may be in smaller quantities, but in no case may less than 100 pounds of available nitrogen per acre be applied with 30% of that amount in slow-releasing form.

D. On slopes, an additional 400 pounds of fertilizer, having a composition of 0% available nitrogen, 25% available phosphoric acid, and 25% available potassium, shall be applied.

PART 3 - EXECUTION

3.01 SITE CLEARING:

A. Not applicable

3.02 PRUNING:

A. Not applicable

3.03 SEEDING OPERATIONS

A. General:

1. Perform seeding with personnel familiar with planting procedure, and under the supervision of a qualified planting foreman adjudged by the Owner to be capable of performing the Class and Scale of work contemplated.

B. Planting Season:

1. Unless otherwise shown on the Drawings or directed by the Owner, the planting seasons shall be those indicated below. Seeding shall not be completed on frozen ground nor when snow covers the grounds or when the soil is otherwise in an unsatisfactory condition for planting.

a) Seeding: Spring: April 1st to June 1st
Fall: August 15th to October 15th

2. Seeding at other than the above times shall be allowed only with the written permission of the A/E.

3. If the seed bed has been prepared and the time is not appropriate for seeding, the seeding shall be completed during the next seeding season. The Contractor shall notify the A/E at least forty-eight (48) hours in advance of the time he intends to commence seeding.

C. Grassed Areas:

1. Preparation of areas for seeding:

a.) Finely rake loam areas to a finished grade. Remove all sticks, litter, wire, weeds, cable, and stones larger than one-half inch in overall dimensions and dispose of as approved. Where
the soil has become compacted, scarify areas to be seeded to a minimum depth of (6) inches. No seeding of this type will be permitted on areas where the seed bed has not been properly prepared or where the soil is compacted.

b.) Lime: Spread evenly and work into the soil during the preparation of seed bed at the rate of one ton per acre. Incorporate into soil by discing or other approved method. When applied hydraulically, no discing will be necessary.
Mechanically spread or power spray lime at the rate determined by testing on all areas. Distribute lime uniformly and work into the top four inches minimum of the topsoil and uniformly blend by discing or rototilling.

On slopes exceeding twenty-five percent, apply lime at the rate determined by testing with a power sprayer in the slurry with fertilizer, seed, and mulching material, as specified
elsewhere in this item. However, loosen these areas by tiling and fine grading as noted below.

c.) Fertilizer: Incorporate into the planting soil at the rate of 5 lbs. per 1000 sq. ft. Incorporate fertilizer into soil by discing or other approved method of seeding.

d.) Finished Raking: Perform by an approved method to the satisfaction of the Architect. Adjust the grades near curing and walks to fit the proposed grade.

e.) Rolling: Do in two directions, perpendicular to each other. The roller shall be a hand roller weighing not more than 200 lbs. nor less than 150 lbs. Roll in such a manner as to eliminate the necessity of walking on the finished grade. During the rolling, fill all depressions caused by settlement of rolling with additional sod and regrade the surface and roll until it presents a smooth and even finish and is up to the required grade.

f.) After rolling, check the finished grade for depressions, lumps, or any other irregularities. Repair and re-roll all as directed by the Owner's Representative.

g.) Apply pre-emergent weed control to new seeding areas ONLY, according to manufacturer's recommendations.

2. Preparation for overseeding: Spread agriculture limestone and core-aerate to a depth of 2" to 4". Only coring tines and/or open spoon tines shall be employed. A dragnet (chain mesh) or equal shall be mounted behind coring unit to breakup cores and groom grass.

3. Sowing of Seed:

   a.) Sow seed at the minimum rate of five (5) pounds per one thousand (1,000) square feet. Hydroseed at the rate of three (3) pounds per one thousand square feet where directed.

   b.) Do not seed during windy weather.

   c.) Seed in two (2) directions perpendicular to each other. No hydroseeding will be accepted
   unless application method is approved prior to application by the Architect.

   d.) Sow the seed evenly with an approved seeding device at the proportion and rate specified.

   e.) Water the entire area with a fine spray. Be responsible for all watering to establish good growing conditions.

4. Overseeding: Approved seed mixture shall be applied at a rate of 6 lbs./1,000 sq. ft. by means of seeder device capable of penetrating ground to a depth of 1'. Seeder machine shall be equipped with disc-type penetrating action and seeder tubes which plant seeds. Seeder shall be similar to Jacobsen Model 524-100, 548-100 or equal. Distribute seed over area into separate passes, each one perpendicular to the other (north-south, east-west orientation). Each pass shall be in a linear progression, and shall conform to the field direction which permits the longest, straight line application procedure. Hydroseeding will be permitted only with written permission of the Owner. All requests shall be in writing with detailed and itemized procedure to be followed.

5. Mulching: Cover all seeded area with a suitable mulch within seventy-two (72) hours after the application of the seed.

   a.) Hay or Straw:

      1.) Hay or straw may be applied to these areas by blower. Rate of application .62 to .82 pounds per square yard (1-1/2 to 2 tons per acre). Supply sworn weight slips on all deliveries of hay to the Architect.

      2.) In the event that a severe wind condition continually blows the hay mulch from seeded area, Owner's Representative may require that woven paper netting be applied over the mulch. No extra payment will be made for this netting.

   b.) Cellulose Fiber: Cellulose fiber mulch only may be used on these areas if approved by the Architect. Application rates shall be 1,000 pounds per acre on flats, 1,500 pounds per acre on the slopes. Remove fiber mulch that becomes adhered to signs, sign posts, and/or lighting standards.

6. Watering:

   a). Water used shall be furnished by the Contractor unless otherwise coordinated with the Owner. It shall be the Contractor's responsibility to furnish and use all necessary equipment and labor to do the watering. The Contractor shall be responsible for watering all grassed areas (seeded and sodded) when and where necessary and in accordance with applicable weather conditions for a minimum of sixty (60) days or until otherwise accepted by the Owner.

b). Moisture Requirement:

1.) The quantity of water applied at one time shall be sufficient to penetrate the soil to a minimum depth of six (6) inches and at a rate which will prevent saturation of the soil. During extremely hot weather care must be taken to prevent over watering and water applications shall be spaced at longer intervals unless grass is in danger of drought damage, and as directed by the Owner.

c). Water shall be applied with standard sprayers to distribute in uniform and even quantities. Hose spraying will not be permitted.

7. Other Maintenance:

a). Mowing: Cut the grass when it is from 2-1/2 to 3 inches high. Properly prepare, lime and fertilize, and re-sod all bare or dead spots at no expense to the Owner as many times as necessary to secure a good growth. Maintain the entire area and cut until final acceptance of the sod and seed installation.

b). Protection: Take whatever measures are necessary to protect the seed while it is enveloping up to the time of final acceptance. Include furnishing of warning signs, barriers, temporary fence or any other necessary measures of protection.

Furnish, erect, and maintain all such temporary barriers until final acceptance of the seed areas by the Owner and remove them upon such final acceptance. The barriers shall remain the properly of the Contractor at all times.

c). Fertilization after establishment: Approximately six (6) weeks after the grass is established in seeded areas, apply fertilizer as indicated herein.

3.04 DISPOSAL OF WASTE MATERIALS

A. Burning on Owner's Property:

1. Burning of combustible cleared and grubbed materials is not permitted on the Owner's property.

2. Remove materials in such a manner so as to prevent spillage.

3. Keep pavements and areas adjacent to and leading from the site clean and free of mud, dirt and debris.

3.05 FINAL CLEAN-UP:

A. Promptly remove any soil, peat or similar material which has been brought onto paved areas by hauling operations or otherwise, keeping those areas clean at all times. Upon completion of the planting, remove all temporary construction facilities and unused materials provided for the work from the site or dispose of as directed by the Owner's Representative. Trash and combustible materials shall not be allowed to accumulate. Prepare all planting areas for final inspection.

END OF SECTION

SECTION 05300

METAL DECKING

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Provide all labor, materials, equipment, appliances necessary for installation of the metal decking work, complete as shown on the drawings, specified herein, or both.

B. Metal deck work shall include, but not be limited to the furnishing and installation of:

1. Steel roof deck.
2. Welding washers.
3. Reinforcing plates around openings.
4. Sump pans.
5. Butt and finish strips.
6. Reinforcing channels.
7. Cell closures.

1.02 RELATED WORK:

A. Documents affecting work of this section including but not necessarily limited to General Conditions, Supplementary Conditions, and sections in Division 1 of these Specifications.

1.03 REFERENCES:

A. AISI: Specification for the Design of cold-Formed Steel Structural Members.

B. ASTM A446: Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical)Quality.

C. ASTM A611: Steel, Cold-Rolled Sheet, Carbon, Structural.

D. AWS D1.1: Structural Welding Code.

E. SDI: Design Manual for Composite Decks, Form Decks, Roof Decks.

F. Calculate section properties in accordance with the "Specifications for the Design of Light Gage, Cold Formed Steel Structural Members" of the American Iron and Steel Institute, latest edition.

G. Fabricate in accordance with the requirements of the Steel Deck Institute.

1.04 SHOP DRAWINGS:

A. Submit Shop /Drawings in accordance with Section 01330.

B. Indicate roof decking plan, deck profile dimensions, supports, projections, openings and reinforcement, pertinent details, and accessories.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Roof Deck:

1. As a minimum standard: 20 Gauge, 1-1/2" deep, Wide Rib Deck, Type B, Hot Dipped, Galvanized, by Bowman Division of Cyclops Corp.; Roll Form Products, Inc.; Rosewall Industries, Inc.; or approved equal. Deck shall be manufactured to the standards and specifications of the Steel Deck Institute. Note: new roof deck shall match existing type-field verify prior to ordering.

2. Accessories from Steel Sheets conforming to ASTM A-611 Grade C or A-446 Grade A. Steel shall have a minimum yield strength of 33,000 psi and a working stress of 20,000 psi maximum.

3. Rubber closures to match profile of deck.

4. Welding washers - 16 gauge – when required by Structural Engineer.

5. Flat plates at unframed openings to be 14 gauge.

2.02 DESIGN:

A. Roof Deck:

1. Section properties shall be computed in strict conformance with the "Specifications for the Design of Light Gage Cold Formed Steel Structural Members", as published by the American Iron and Steel Institute.

2. Deflection shall not exceed L/360 span or 1 inch maximum (whichever is less) under a live load of 35 psf, or as shown on the drawings. Drawings take priority in this instance.

3. Decks shall be fabricated and installed in three span (4 supports) or longer lengths.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Only workman experienced in the fabrication and installation of metal deck shall be employed on work under this section of the specifications.

B. Erect metal decking in accordance with SD 1 Design Manual for Composite Decks, Form Decks, Roof Decks. Perform welding to AWS D1.1.

C. Install deck in strict conformance with the manufacturer's approved shop drawings. Weld to structural supports with 3/4" dia. plug welds at 12" o.c. maximum using welding washers furnished by the deck manufacturer. End laps shall be a minimum of 2 inches and shall always occur over supports. Fasten side joints with sheet metal screws at all mid-spans.

D. Fasten deck to steel support members at ends and intermediate supports in accordance with SD 1 Standards.

E. Reinforce roof decking openings up to 120 square inches in size with 20 gage flat plate stock at opening perimeters.

F. Install 6 inch wide sheet steel covers where roof deck changes direction. Spot weld in place.

G. Install sheet steel strip closures at floor edge upturned to thickness of slab to contain wet concrete. Provide closures of sufficient strength to remain in place without distortion.

H. Install sheet steel closures and angle flashings to close openings between deck and walls, columns, and openings.

I. Immediately after welding roof deck in place, touch-up welds, burned areas, and surface coating damage with prime paint.

J. Weld flat 14 gauge plates to the roof deck where vents or other small unframed openings occur.

K. Prior to welding the deck, accurately establish the line of steel supports by snapping a chalk line to assure proper location of weld points.

L. Sump pan flanges shall overlap the steel deck a minimum of 6 inches and shall be securely welded to adjacent roof deck to properly reinforce the opening.

M. All welds, rusted areas, abrasions and other areas of deck which are damaged shall be field painted after the installation is completed.

N. When deck rests on walls or steel beams, over a partition or at an exterior wall, the hollow space between webs of the deck shall be closed with neoprene closures or as may be specified elsewhere herein or as shown on the drawings.

O. Install deck continuous over 3 spans (4 supports) with corrugation edges up and with corrugations perpendicular to supports.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work included: Provide metal fabrication work where shown on the drawings, as specified herein, and as needed for a complete and proper installation. Work generally includes:

1. Fasteners
2. Miscellaneous metal materials and accessories

1.02 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Perform shop and/or field welding required in connection with the work of this Section in strict accordance with pertinent recommendations of the American Welding Society.

1.03 SUBMITTALS:

A. Comply with pertinent provisions of Section 01 30 00.

1.04 PRODUCT HANDLING:

A. Comply with pertinent provisions of Section 01 60 00.

PART 2 - PRODUCTS

2.01 MATERIALS (General)

A. In fabricating items which will be exposed to view, limit materials to those which are free from surface blemishes, pitting, rolled trade names, and roughness.

B. Comply with the following standards, as pertinent:

ASTM A36 - Steel plates, shapes and bars
ASTM A283 - Grade C - Steel plates to be bent or cold-formed
ASTM A501 - Steel tubing (hot formed, welded or seamless)
ASTM A306 - Grade 65 or ASTM A36 - Steel bars and bar size shapes
ASTM A108 - Cold finished steel bars
ASTM A336 - Cold rolled carbon steel sheets
ASTM A526 - Galvanized carbon steel sheets
ASTM A525 - (with G90 zinc)
AISI, Type 302, or 304 - 22 ga. with No. 4 finish unless otherwise specified on the drawings or herein.
ASTM A53 - Gray iron castings, Grade A, Sched. 40; black finish unless otherwise noted.
ASTM A47 - Malleable iron castings
ASTM A53 - Steel pipe, Grade A, Sched. 40; black finish unless otherwise noted.

2.02 FASTENERS:

A. General:

1. For use where built into exterior walls, provide zinc-coated fasteners.

2. Provide fasteners of type, grade and class required for the particular use.

3. Use compatible fastening materials. Use only hot-dipped galvanized metal, copper or stainless steel fasteners where used in conjunction with preservative-treated wood.

B. Comply with the following standards as pertinent:

1. Bolts and nuts; provide 4 hexagon-head, regular type complying with ASTM A307, Grade A.

2. Lag Bolts; provide spare-head type, complying with Fed. Spec. FF-B-561.

3. Machine Screws; provide cadmium plated steel type complying with Fed. Spec. FF-S-111.

4. Security Fasteners:
   a) Hex-Pin® button-head, flat-head and expansion security bolts, 316 stainless steel complying with ASTM F593-01.

5. Concrete Inserts:
   a) Threaded or wedge type galvanized ferrous castings of malleable iron complying with ASTM A27.
   b) Provide required bolts, shims and washers; hot-dip galvanized in accordance with ASTM A153.
6. Washers:
   a) Plain Washers; comply with Fed. Spec. FF-W-92, round carbon steel.
   b) Lock Washers; comply with Fed. Spec. FF-W-84, helical spring type carbon steel.

7. Toggle Bolts; provide type, class and style needed complying with Fed. Spec. FF-B-588.

8. Anchorage Devices; provide expansion shield complying with Fed. Spec. FF-S-325

2.03 STAINLESS STEEL:

A. Stainless Steel Kick Plates: (when specified)

1. Stainless steel shall be fabricated of 16 gauge stainless steel, Type 302.

2. Formed of one sheet of metal.

3. Ground, and polished to a satin finish.

4. Corners and edges shall have radius corners.

6. Shop-fabricate entire kick plate assembly to suit door and door hardware configuration.

2.04 LADDERS:

A. Fixed, vertical, height and width as described on the drawings and constructed with galvanized flat bar stringers secured to concrete masonry assembly with galvanized metal expansion bolts, min. (4)-brackets per stringers. Rungs shall be 3/4” dia. pipe at 12” o.c. weld all parts.

2.05 MISCELLANEOUS MATERIALS AND ACCESSORIES:

A. Concrete: Comply with provisions of Section 03300 for concrete footings.

2.06 OTHER MATERIALS:

A. All other materials as needed for a complete and proper installation.

2.07 SHOP PAINT:

A. Primer: Use “10-99 Tnemec Primer”, “Rustoleum #5769 Primer” or equal.

B. For repair of galvanizing use a high zinc dust content paint complying with MIL-P-21035.

C. Clean surfaces in accordance with Steel Structures Painting Council Sp-3, “Power Tool Cleaning”.

D. After surfaces are properly cleaned, apply the primer to a uniform 1.5 mils. dry thickness.

2.08 FABRICATION:

A. Except as otherwise shown on the drawings or the approved shop drawings, use materials or size, thickness and type required to produce reasonable strength and durability in the work of this section.

B. Fabricate with accurate angles and surfaces which are true to the required lines and levels, grinding exposed welds smooth and flush, forming exposed connections with hairline joints and using concealed fasteners wherever possible.

C. Prior to shop painting or priming, properly clean metal surfaces as required for the applied finish for the proposed use of the item.

D. On surfaces inaccessible after assembly or erection, apply two coats on the specified primer. Change color of second coat to distinguish it from the first.

E. Galvanizing where indicated or specified shall be performed after fabrication. Shapes, plates and bars shall be galvanized in accordance with the requirements of “Standard Specifications for the Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strips” ASTM Designation A 123-71. Nuts, bolts, and washers shall be galvanized in accordance with the requirements of “Standard Specifications for Zinc Coating (Hot-Dip) on Iron and Steel Hardware” ASTM Designation A 153-71 and A286. All galvanized material shall comply with specifications and marked with stamp indicating ASTM number and weight of zinc coating in ounces per square foot similar to Duncan Stamp. Notarized statement of compliance with list of galvanized items to accompany shipment of galvanized materials and furnished to A/E.

D. Dissimilar Material: Where aluminum surfaces come in contact with metals other than stainless steel, zinc, white bronze of small area or other metals compatible with aluminum, aluminum surfaces shall be kept from direct contact with such parts by painting the dissimilar metal with a coating of zinc chromate paint, a good quality caulking placed between aluminum and dissimilar metal, or a non-absorptive tape or gasket.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 COORDINATION:

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this section.

3.03 INSTALLATION:

A. General:

1. Set work accurately into position, plumb, level, true and rack-free.

2. Anchor firmly into position.

3. Where field welding is required, comply with AWS recommended procedures of manual-shielded metal-arc welding for appearance and quality or weld and for methods to be used in correcting welding work.

4. Grind exposed welds smooth and touch-up shop prime coats.

5. Do not cut, weld or abrade surfaces which have been hot-dip galvanized after fabrication and which are intended for bolted or secreted field conditions.

B. Immediately after erection, clean the field welds, bolted connections, and abraded areas of shop priming. Paint the exposed areas with the same materials used for shop priming.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work Included: Provide wood, nails, bolts, screws, framing anchors, rough hardware, and other such items needed to perform rough carpentry for the construction shown on the drawings, as specified herein, and as needed for a complete and proper installation.

B. Related Work:

1. Documents affecting work of this section including but not necessarily limited to General Conditions, Supplementary Conditions, and sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

B. Lumber Grading Rules and Wood Species to be in conformance with Voluntary Product Standard PS 20-70. Grading Rules of the following associations apply to materials furnished under this section.

1. Northeastern Lumber Manufacturer's Association, Inc. (NELMA)
2. Southern Pine Inspection Bureau (SPIB)
3. West Coast Lumber Inspection Bureau (WCLIB)
4. Western Wood Products Association (WWPA)
5. Redwood Inspection Service (RIS)
6. Northern Hardwood and Pine Manufacturer's Association (NHPMA)

C. Plywood Grading Rules:

1. Softwood plywood/Construction and Industrial:
Product Standard PS 1-66

D. Grade Marks: Identify all lumber and plywood by official grade marks.

1. Lumber: Grade stamp to contain symbol of grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded, where applicable and condition of seasoning at time of manufacture.

a) S-GRN: Unseasoned
b) S-Dry: Maximum 19% moisture content
c) MC-15 or KD: Maximum of 15% moisture content
d) Dense.

2. Softwood Plywood: Appropriate grade trademark of the American Plywood Association.

a) Type, grade, class, and identification index.
b) Inspection and testing agency mark.

E. Testing: ASTM E 84-70, maximum 25 flame spread rating (exposed wood only).

F. All Lumber: Preservative treated or fire retardant, as directed on the drawings and herein.

G. Requirements of Regulatory Agencies:

1. Fire Hazard Classification: Underwriters' Laboratories, Inc., for treated lumber and plywood.

2. Preservative Treated Lumber and Plywood: American Wood Preserver Bureau, Quality mark.

3. Pressure Treated Material: American Wood Preservers Bureau Standards.

4. Span Tables: National Forest Products Associations.

5. Working Stresses: Softwood Lumber, National Design Specification, National Forest Products Association.

1.03 SUBMITTALS

A. Certification:

1. Preservation Treated Wood: Submit certification for waterborne preservative that moisture content was reduced to 19% maximum, after treatment.

2. Fire-retardant Treatment: Submit certification of treating plant that fire-retardant treatment materials comply with governing ordinances and that treatment will not bleed through finished surfaces.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Immediately upon delivery to job site, place materials in area protected from weather.

B. Store materials a minimum of 6" above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.

C. Do not store seasoned materials in wet or damp portions of building.

D. Protect fire-retardant materials against high humidity and moisture during storage and erection.

E. Protect sheet materials from corners breaking and damaging surfaces while unloading.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide materials in the quantities needed for the work shown on the drawings, and meeting or exceeding the following standard of quality:

1.) Plywood:
   a) Sheathing: PA Structural I or II, C-C standard sheathing, standard exterior grade sheathing with exterior glue. Use plywood specifically extended for exterior use.
   b) Softwood Plywood: PS 1; use G-D grade with exterior glue. Use plywood specifically intended for exterior use.
   c) Strapping: Shall be 1" × 3" spruce wood furring.

B. Lumber:

1. Lumber: PS 20; graded in accordance with established Grading rules.
   a) Structural Light Framing: Southern Yellow Pine No. 2 grade and better.
   b) Non-structural Light Framing: Southern Yellow Pine No. 2 grade and better.
   c) Horizontal framing members: Southern Yellow Pine, Table 1, Construction grade.
   d) Vertical framing members: Southern Yellow Pine, Table 1, Standard grade.

2. Dimensions:
   a) Specified lumber dimensions are nominal.
   b) Actual dimensions conform to industry standards established by the American Lumber Standards Committee and the rules writing agencies.

3. Moisture Content: Unseasoned or 19% maximum at time of permanent closing in of building or structure, for lumber 2” or less nominal thickness.

4. Surfacing: Surface four sides (S4S), unless specified otherwise.

5. Framing Lumber: 2” to 4” thick, 2” to 4” wide, any commercial softwood specified:

   a) Light Framing:
      1) Plates, blocking, bracing, and nailers: Utility Grade.
      2) Bracing, blocking, bulk headings, and general utility purposes: Economy Grade.
      3) Grade: Appearance
      4) Grade: Appearance, 15% maximum moisture content, MC-15 or KD on grade stamp.

6. NOTE: Southern yellow pine of similar quality may be utilized, particularly with preservative treatment.

C. Building Paper: FS UU-B-790A, Type 1, width of 36” or as specified on the drawings.

D. Fire-retardant treated products;

1. Lumber: AWPA C20-70
2. Plywood: AWPA C27-70

E. Preservative-Treated Wood Products:

1. Creosote and creosote preservatives for wood placed in ground or in water.

   a) AWPB LP-55, ground contact application creosote or creosote coal tar solution.
   b) Pressure treated – water borne preservatives – exposed woods above ground.
      1.) AWPB LP-22
   c) Untreated Lumber: All heartwood grades.

2.02 OTHER MATERIALS:

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor, subject to the approval of the A/E.

PART 3 - EXECUTION

3.01 CONDITIONS OF SURFACES:

A. Verify that surfaces to receive rough carpentry materials are prepared to exact grades and dimensions.

B. Erect wood nailing members true to lines and levels. Do not deviate from true alignment more than 1/4 inch.

C. Space framing members at 16 inches on center unless otherwise directed on the drawings or herein.

D. Construct members of continuous pieces of longest possible lengths.

E. Use preservative treated wood in work involved with roofing, door, window blocking, and sills.

F. Provide edge, and roof opening blocking on top of existing deck surface or top of parapet unless otherwise directed on the drawings.

G. Provide vertical wood backing to parapets and metal fascia at roof perimeter and as directed on the Contract Documents.

H. Double-up wall framing members at openings over 100 square inches. Space short members above and below openings in same manner for walls.

3.02 DELIVERIES:

A. Stockpile materials sufficiently in advance of need to assure their availability in a timely manner for this work.

B. Make as many trips to the job site as are intended to delivery materials of this section in a timely manner to ensure orderly progress of the work.

3.03 INSTALLATION:

A. Pressure-treated Wood Products:

1. Provide pressure-treated wood for all framing, blocking, furring, nailing strips built into exterior masonry walls, wood in contact with concrete and in conjunction with gravel stops and roofing when applicable.

2. Re-dry and clean lumber, after treatment, to maximum moisture content of 19% stamped “DRY”.

3. Apply two brush coats of same preservative used in original treatment to all sawed or cut surfaces of treated lumber.

B. Plywood Sheathing:

1. Placement:

a) Place plywood with face grain perpendicular to supports and continuously over at least two supports, except where otherwise shown on the drawings.

b) Center joints accurately over supports, unless otherwise shown on the drawings.

c) Place roof sheathing with end joints staggered. Secure sheets over firm bearing. Maintain minimum 1/16 inch and maximum 1/8 inch spacing between joints of sheets on walls. Place perpendicular to framing members.

2. Protect plywood from moisture by use of waterproof coverings until the plywood, in turn, has been covered with the next succeeding component or finish.

3.04 COMPLIANCE:

A. Do not permit materials not complying with the provisions of this section to be brought onto or to be stored or used at the job sites.

B. Promptly remove non-complying materials from the job site and replace with materials meeting the requirements of this section.

3.05 WORKMANSHIP:

A. Products joints which are tight, true, and well nailed, with members assembled in accordance with the drawings and with pertinent codes and regulations.

B. Selection of Lumber Pieces:

1. Carefully select the members.

2. Select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing, and will allow making of proper connections.

3. Cut out and discard defects which render a piece unable to serve its intended function.

4. Lumber may be rejected by the A/E, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as will as for improper cutting and fitting.

C. Do not shim any framing component.

3.06 GENERAL FRAMING:

A. In addition to framing operations, normal to the fabrication and erection indicated on the drawings, install wood blocking and backing required for the work of other trades.

B. Set horizontal and sloped members with crown up.

C. Do not notch, cut, or bore members for pipes, ducts, or conduits, or for other reasons except as shown on the drawings or as specifically approved, in advance, in writing, by the A/E.

D. Bearings:

1. Make bearings full, unless otherwise indicated on the drawings.

2. Finish bearing surfaces on which structural members are to rest so as to give sure and even support.

3. Where framing members slope, cut or notch and end as required, to give uniform bearing surface.

3.07 BLOCKING:

A. Provide wood blocking as required for a complete and proper job and as required by the roofing manufacturer.

3.08 ALIGNMENT:

A. On framing members to receive a finished surface, align the finish subsurface to vary not more than 1/8” from the plane of surfaces of adjacent furring and framing members.

3.09 FASTENING:

A. Nailing:

1. All nailing shall comply with all requirements of the latest edition of the Rhode Island Building Code.

2. Nail without splitting wood.

3. Prebore as required.

4. Remove split members and replace with members complying with the specified requirements.

B. Bolting:

1. Drill holes 1/16” larger in diameter than the bolts being used.

2. Drill straight and true from one side only.

3. Don’t bear bolt threads on wood, but use washers under head and nut where both bear on wood, and use washers under all nuts.

C. Screws: For lag screws and wood screws, pre-bore holes same diameter as root of threads, enlarging holes to shank diameter for length of shank. Use screws at all replacement plywood substrate at roofs.

D. Use only galvanized metal, copper or stainless-steel fasteners in conjunction with preservative-treated wood. Use compatible fastening materials.

3.10 CLEANING UP:

A. Remove all excess material from site.

END OF SECTION

SECTION 07530

EPDM SHEET ROOFING SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope:

1. At all roof levels indicated as new EPDM roofing assembly, remove and dispose entire existing roofing assembly including flashings, membrane, insulation, asphalts, etc. to structural deck unless otherwise directed herein or on the drawings. Refer to Summary of the Work for additional information.

2. Provide roofing system with flashings, tapered and flat-stock insulation and other items required by the manufacturer to receive a system warranty.

3. Contractor shall verify all dimensions, details and existing conditions prior to submitting bid.

4. Remove and dispose any obsolete equipment as directed by Owner and/or Architect or as shown on drawings.

B. Related Work: The work includes but is not necessarily limited to the installation of:
1. wood blocking
2. insulation
3. fasteners
4. roof membrane
5. roof membrane flashings
6. walkway pads
7. metal flashings
8. sealants and adhesives
9. roof drains

C. Upon successful completion of work the following warranties shall be obtained:
1. Manufacturer's Warranty (20-year)
2. Roofing Contractor's Warranty (2-year)

1.02 QUALITY ASSURANCE

A. This roofing system shall be applied only by an Applicator authorized by the roofing manufacturer prior to the bid due date.

B. Upon completion of the installation, and the delivery to the manufacturer by the Applicator or a certification that all work has been completed in strict accordance with the Construction Documents and the manufacturer's requirements, an inspection shall be made by a technical representative of the manufacturer to observe the installed roof system.

C. There shall be no deviation made from the Construction Documents or the reviewed shop drawings without prior written approval by the Owner, the Architect and the roofing manufacturer.

D. All work pertaining to the installation of the membrane and flashings shall only be completed by Applicator-personnel trained and authorized by the roofing manufacturer in those procedures.

E. Product shall be UL certified with 10% recycled content.

F. Membrane Manufacturer shall confirm in writing that they directly manufacture the roofing membrane; private labeled membranes are not acceptable

G. Manufacturer shall have a minimum of five (5) years' experience recycling their membranes at the end of their service life back into new membrane products. Provide a minimum of five (5) reference projects.

H. Membrane Manufacturer must have recycled content certification from UL (Underwriters Laboratories) Environment.

I. A licensed contractor approved and certified by the EPDM roof membrane system manufacturer and employing personnel experienced and skilled in the application of the manufacturer's roofing system shall install the complete roofing and flashing system. The Roofing Contractor shall be experienced in the installation of warranted, EPDM roof membrane systems. Minimum required experience involves at least 5 years' experience installing EPDM roof membrane 'systems and the successful installation of at least five (5) projects of similar scope, size and complexity, located in Rhode Island, where the Roofing Contractor has installed an EPDM roof membrane system. All such references must be provided with the Contractor's Bid and shall include the following:

1. Name and address of project indicating size and roofing membrane system type and manufacturer, for each of the five (5) referenced projects.
2. Name and phone number of contact person (Owner and/or Designer), for each of the five (5) referenced projects.
3. Written letter of .Certification" or "Approval" from the Roofing System Manufacturer showing that the Roofing Contractor has been "Certified" or "Approved" by the Roofing System Manufacturer for a minimum of five (5) years.

1.03 CODE REQUIREMENTS

A. The Applicator shall submit evidence that the proposed roof system meets the requirements of the building code and has been tested and approved or listed by the following testing 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.

1. Factory Mutual Research Corporation - Norwood, MA

a. F.M. Class 1-90 (field area)

b. Contractor shall submit a 'Contractor Package' to FM Global for review and approval prior to ordering of any materials.

2. Underwriters Laboratories, Inc. - Northbrook, IL
a. U.L. Class A assembly

1.04 FM GLOBAL REQUIREMENTS

A. Immediately following award of construction (issuance of Purchase Order), the Contractor shall submit an Application for Acceptance of Roofing System (provided to G.C. by Architect) to the Factory Mutual Insurance Company (FM Global), 500 River Ridge Drive, P.O Box 9102, Norwood, MA 02062, ph: (781) 440-8000, www.fmglobal.com.

B. Two (2) weeks minimum prior to the start of construction, the Contractor shall notify FM Global of the anticipated start date and schedule.

C. All shop drawings/submittals for the proposed new roofing system shall be submitted to FM Global for review and approval, prior to ordering of any materials. The proposed new roofing system shop drawings/submittals shall also be submitted to Architect for review, for general conformance with the requirements of the Contract Documents, along with all other product submittals.

D. Upon completion of the new EPDM roofing assembly installation, Contractor shall hire (bearing all associated costs) an independent qualified company specialized to perform wind-uplift ('bubble') testing in accordance with FM Global's (FMG) requirements. Contractor shall be responsible for installing the specified new FM 1-90 roofing system in strict conformance with FMG Roofnav Assembly(ies), the Project Manual and the manufacturer's printed instructions. Contactor will be required to coordinate all associated testing between testing company and FMG. Following the wind-uplift testing, if tests indicate results unsatisfactory to FMG, Contractor shall be solely responsible for any and all remediation work required to achieve passing results, conforming to FMG's standards at no additional cost to the Contract. Note: a total of three (3) tests shall be completed.

E. Provide perimeter and corner fastener enhancements as required to achieve the FMG Roofnav Assembly(ies).

F. FMG Roofnav assemblies are as follows:

1. Steel deck: 224172-0-0
2. Gypsum deck: 193356-0-0

1.05 SUBMITTALS

A. The Applicator shall submit to the Architect, the following:

1. Copies of specification.

2. Samples of each component to be used in the roof system and manufacturer's current literature for each component.

3. Written approval by the insulation manufacturer and roofing manufacturer for use and performance of the product in the proposed system.

4. Sample copy of roofing manufacturer's warranty.

5. Sample copy of Applicator's warranty.

6. Dimensioned shop drawings which shall include:
   a. Outline of roof and roof size
   b. Profile details of flashing methods for penetrations and terminations.
   c. Technical acceptance from roofing manufacturer.

7. Certifications by manufacturers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and industry standards or practice.

8. Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the specification.

1.06 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 protected from moisture.

C. Membrane rolls shall be stored lying down on pallets, and fully protected from weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions.

D. All adhesives shall be stored at temperatures above 40° F (5° 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 the roofing manufacturer are to be removed from the job site and replaced at no cost to the Owner.

G. Do not load the building or building components with weight that will endanger the structure.

1.07 JOB CONDITIONS

A. The roofing manufacturer's materials may be installed under certain adverse weather conditions but only after consultation with the roofing 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 sealed watertight before leaving the job site.

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. Should surface moisture occur, the Applicator shall provide the necessary equipment to dry the surface prior to application.

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 membranes of this specified manufacturer are incompatible with asphalt, coal tar, heavy oils and roofing cements. Creosote and preservative materials are also incompatible. Such materials shall not remain in contact with the manufacturer's membranes. The Applicator shall consult the roofing 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 an approved surface 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 either 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 authorities having jurisdiction.

K. All roofing, insulation, flashings and metal work removed during construction shall be immediately taken off the site to a legal dumping area authorized to receive such materials. If applicable, hazardous materials, such as materials containing asbestos, are to be removed and disposed of in strict accordance with applicable Town, State and Federal Requirements.

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, in a legal manner.

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. Installation of this membrane over coal tar pitch or a re-saturated roof requires special consideration to protect the membrane from volatile fumes and/or materials. Consult the roofing manufacturer for precautions prior to bid (if applicable).

O. Flammable adhesives shall not be stored and not be used in the vicinity of open flames, sparks and excessive heat.

P. All rooftop contamination that is anticipated or that is occurring shall be reported to the roofing manufacturer to determine the corrective steps to be taken.

Q. The Applicator shall verify that all roof drain lines are functioning correctly (not clogged or blocked) before starting work. Applicator shall be responsible for snaking all blocked drain lines, to 10' from the building perimeter at grade level.

R. Applicator shall immediately stop work if any unusual or concealed condition is discovered and shall immediately notify Owner and Architect of such condition in writing for correction at the Owner's expense.

S. Site cleanup, including both interior and exterior building areas which have been affected by construction, shall be completed to the Owner's satisfaction.

T. All landscaped areas damaged by construction activities shall be repaired by the Contractor at no cost to the Owner.

U. The Applicator shall perform fastener pullout tests in accordance with industry standards to help verify condition of deck/substrate and to confirm expected pullout values.

V. Precautions shall be taken when using adhesives at or near rooftop vents or air intakes. Adhesive odors could enter the building. Coordinate with Owner, the operation of vents and air intakes in such a manner as to avoid the intake of adhesive odor while ventilating the building.

1.08 BIDDING REQUIREMENTS

A. Pre-Bid Meeting:
A pre-bid meeting may be held with a representative of the Owner and involved trades to discuss all aspects of the project. The prospective Applicator's field representative or roofing foreman for the work and roofing manufacturer representative shall be in attendance. Procedures to avoid rooftop damage by other trades shall be determined.

B. Site Visit:
Bidders shall visit the site prior to submitting bid, and carefully examine the areas in question as to 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.

1.09 WARRANTIES

A. Manufacturer's System Warranty:
Upon final completion of the work and written acceptance by the roofing manufacturer and Architect, a 20-year System Warranty shall be issued.

B. Applicator/Roofing Contractor Warranty:
Applicator shall provide the Owner with a separate 2-year workmanship warranty. In the event any work related to roofing, flashing, or metal work is found to be defective or otherwise not in accordance with the Construction Documents within the Applicator Warranty Term, the Applicator shall repair such 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 roofing manufacturer.

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

PART 2- PRODUCTS

2.01 GENERAL

A. To establish a level of quality and performance characteristics desired the specified new EPDM roofing assembly is based upon Carlisle SynTec. Alternate manufacturers may be considered, but are subject to compliance with the requirements specified herein. Manufacturer's trade names are listed to establish a level for compliance.

B. Unless otherwise approved by the Architect and accepted by the membrane manufacturer, all products (including insulation, fasteners, fastening plates and edgings) must be manufactured and supplied by the roofing system manufacturer and covered by the warranty.

C. Manufacturer of roof membrane shall also manufacture all polymeric components for the roofing system, including, but limited to, membrane, adhesives, primers, flashings, caulks and tapes.

2.02 MEMBRANE

A. Provide Sure-Seal 60-mil EPDM (Ethylene, Propylene, Diene Terpolymer) in the largest sheet possible with 3" Factory-Applied Tape (FAT). The membrane shall conform to the minimum physical properties of ASTM D4637. When a 10-foot wide membrane is to be used, the membrane shall be manufactured in a single panel with no factory splices to reduce splice intersections.

2.03 INSULATION

A. When applicable, insulation shall be installed in multiple layers. The first and second layer of insulation shall be secured to the substrate as noted herein, in accordance with the manufacturer's published specifications.

B. Insulation shall be as supplied by the roofing membrane manufacturer.

1. Carlisle SecurShield Polyisocyanurate– A foam core insulation board covered on both sides with a moisture-resistant coated glass fiber mat facer meeting ASTM C 1289-06, Type II, Class 2, Grade 3 (20 psi).

2. Insulation boards shall be a Factory Mutual Class 1-90, approved.

3. Insulation shall meet all identified code/insurance requirements.

4. Insulation panels directly under the adhered G410 shall not exceed length × width dimensions of 4 ft. × 4 ft. (1.2 m × 1.2 m).

5. Insulation shall be accepted by the roofing manufacturer.

6. Base Insulation: Shall be isocyanurate coated glass facer with a minimum total thickness as indicated on the drawings. The edges shall be square.

7. Tapered Insulation: Shall be isocyanurate coated glass facer. The taper panel shall have a minimum taper of 1/4 inch per ft. the edges shall be square. Note: This insulation shall be installed at the roof edges as shown on the drawings and shall be in addition to the base layer of insulation.

C. Insulations shall have an average "R" value of 25.0 per roof level.

D. Insulation(s) thickness shall be a minimum thickness of 1.5 inches (25 mm) at the drains or as designed by insulation manufacturer.

E. Insulation manufacturer certification:

1. The insulation manufacturer shall provide to the Applicator and roofing manufacturer, documentation regarding the use of the product with specific reference to the:
   a) Name and location of the project.
   b) Confirmation of expected performance for duration of the Warranty.
   c) Application instructions for installation if insulation boards, including method and rate of attachment.

F. Deliver the insulation with the manufacturer's original packaging and labels intact. Keep dry at all times. If stored outside, raise the insulation above ground or roof level on pallets and cover with a tarpaulin or other waterproof material. Plastic wrapping installed at the factory is not to be used as outside storage covers.

G. The Contractor shall be responsible for providing a proper substrate.

H. The Contractor shall verify that:

1. Roof drains and/or scuppers have been installed per approved shop drawings.

2. Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly prepared and attached to substrate.

3. Gypsum and concrete surfaces shall be properly primed, finished and free of fins, edges, or voids.

2.04 ADHESIVES, CLEANERS AND SEALANTS

All products shall be furnished by the roof membrane manufacturer and specifically formulated for the intended purpose.

A. Low VOC Bonding Adhesive 1168: A low VOC (volatile organic compound) bonding adhesive that has < 250 gpl and is designed to comply with the regulations of the South Coast Air Quality

Management District's Rule 1168. See Carlisle's Product Data Sheet for a listing of the counties involved. The high strength, solvent-based contact adhesive that allows bonding of EPDM membrane to various porous and non-porous substrates. Apply at a rate of 60 ft2 per gallon finished surface. Available in 5-gallon cans.

1. Sure-Seal SecurTAPE™ (Factory Applied): A 3" wide by 100' long splice tape used for splicing adjoining sections of EPDM membrane. Complies with the South Coast Air Quality Management District Rule 1168.

B. EPDM Primer: A solvent-based primer used to prepare the surface of EPDM membrane for application of Splice Tape or Pressure-Sensitive products. Available in 1 gallon pails.

C. Lap Sealant: A heavy-bodied material used to seal the exposed edges of a membrane splice. Available in tubes.

1. Sure-Seal Lap Sealant is a black sealant for use with Sure-Seal (black) Roofing Systems.

D. Water Cut-Off Mastic: A one-component, low viscosity, self-wetting, Butyl blend mastic used to achieve a compression seal between the EPDM membrane or Elastoform Flashing and applicable substrates. Available in tubes.

E. Pourable Sealer: A black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects such as clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.

F. One-Part Pourable Sealer: Available in black, a one-component, moisture curing, elastomeric polyether sealant used for attaching lightning rod bases and ground cable clips to the membrane surface and as a sealant around hard-to-flash penetrations such as clusters of pipes.

G. Universal Single-Ply Sealant A one-part polyether, non-sagging sealant designed for sealing expansion joints, control joints and counter-flashings. Available in white only.

H. CCW 702 or CCW 702-LV: a single-component, solvent-based, high-tack primer used to provide adhesion between Carlisle 725TR and an approved substrate.

2.05 METAL EDGING AND MEMBRANE TERMINATIONS

A. All metal edgings shall be tested and meet ANSI/SPRI ES-1 standards and comply with International Building Code. All metal work is to be supplied and warranted by the manufacturer.

SecurEdge 3000: metal fascia system with a 20 gauge steel retainer bar and 0.050" thick aluminum fascia. Metal fascia color shall be as selected by the Architect from premium list of colors. ANSI/SPRI ES-1 Certified. 3000 Coping FM Approved 1-465 with 0.050 aluminum retainer, 1-180 with 20 ga. Steel retainer. 3000 XT Coping FM Approved 1-315.

2.06 WALKWAYS

A. Protective surfacing for roof traffic shall be Sure-Seal (black) Pressure-Sensitive Walkway Pads (with Factory-Applied Tape on the underside of the walkway) adhered to the membrane surface in conjunction with Sure-Seal Primer.

2.07 MISCELLANEOUS FASTENERS AND ANCHORS

A. All fasteners, anchors, nails, straps, bars, etc. shall be of post-galvanized zinc or cadmium-plated steel, aluminum or stainless steel. Mixing metal types and methods of contact shall be 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 1.25 inch (32 mm) and shall be approved for such use by the fastener manufacturer. All wood fasteners and anchors shall have a minimum embedment of 1 inch (25 mm) and shall be approved for such use by the fastener manufacturer.

2.08 ROOF DRAINS

A. Remove and replace existing roof drains with new Smith 10 10-R-C-CID drains or equal. Drain diameter shall be determined by diameter of existing drain openings. All drain bowls shall be insulated. The contractor shall be responsible to provide all drain accessories. All drains shall be cleared to 10ft outside of building.

PART 3- EXECUTION

3.01 GENERAL

A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, jobsite considerations and weather restrictions.

B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.02 WOOD NAILERS

A. Install continuous treated wood nailers at the perimeter of the entire roof and around roof projections and penetrations as specified on project drawings.

B. Nailers shall be anchored to resist a minimum force of 300 pounds per lineal foot in any direction. A 1/2 inch (12 mm) space shall be provided between nailer lengths. Individual nailer lengths shall not be less than 3 feet (approx. 1 meter) long. Nailer fastener spacing shall be at 12 inches (0.3 m) on center, 16 inches (0.4 m) if necessary to match the structural framing. Fasteners shall be staggered 1/3 the nailer width and installed within 6 inches (0.15 m) of each end. 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 substrate or insulation height to allow a smooth transition.

D. Any existing woodwork which is to remain shall be firmly anchored in place (shall resist a minimum force of 300 pounds per lineal foot in any direction) and free of rot. Only woodwork designated to be reused in detail drawings or as directed by the Architect shall be left in place and other woodwork shall be removed.

3.03 INSULATION PLACEMENT

A. Install insulation with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.

B. Secure insulation to metal decking with fasteners and discs according to Roofing Manufacturer and FM Global requirements.

C. Secure insulation to the gypsum deck substrate with the required insulation adhesive Carlisle FAST Adhesive in accordance with the manufacturer's specifications.

1. Olympic Olybond500 Adhesive Attachment (alternate insulation board adhesive):

a) Apply using PaceCart equipment over properly installed and prepared substrates in bands 12 in. (13 mm) o.c. Allow to rise approximately 1/2 – 3/4 in. (13 – 19 mm). Lay insulation boards in adhesive and walk into place to ensure full embedment. CAUTION: Walking insulation boards in immediately after placement into adhesive may cause slippage/movement until adhesive starts to set up. On roof slopes greater than 1/2 inch (13 mm) in 12 inches (305 mm), begin adhering insulation at low point and work upward to avoid slippage. One person shall be designated to walk in, trim/slit and apply weight to al insulation boards to ensure adequate securement. Only areas that can be made completely watertight in the same day's operations shall be coated.

b) Installation Guidelines:

1) Not recommended for use with insulation boards larger than 4x4 ft. (1.2x1.2 m).
2) Place insulation board into the adhesive shortly after it has reached its maximum rise (typically within 2 minutes) and walk into place.
3) Job site conditions may affect performance. Adhesive shall not be used if surface and/or ambient temperatures are below 45°F (7°C) during application or subsequent curing time.
4) Minimum product temperature before entering the dispenser should be 72°F (22°C).
5) Store between 45°F (7°C) and 95°F (35°C).
6) Protect from freezing, any product that does freeze must be removed from the job site and disposed of per State and Federal regulations.
7) Adhesive shall not be used during inclement weather.
8) Adhesive shall not be applied to wet or damp surfaces.

3.04 MEMBRANE PLACEMENT AND BONDING

A. Unroll and position membrane without stretching. Allow the membrane to relax for approximately 1/2 hour before bonding. Fold the sheet back onto itself so half the underside of the membrane is exposed.

B. Apply the Bonding Adhesive in accordance with the manufacturer's published instructions and coverage rates, to both the underside of the membrane and the substrate. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.

1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded half of the membrane sheet with a soft bristle push broom to achieve maximum contact.

2. Fold back the un-bonded half of the membrane sheet and repeat the bonding procedure.

C. Install adjoining membrane sheets in the same manner, overlapping edges approximately 4 inches. Do not apply bonding adhesive to the splice area.

3.05 MEMBRANE SPLICING

A. Position membrane sheet to allow for required splice overlap. Mark the bottom sheets with an indelible marker approximately 1/4" to 1/2" from the top sheet edge. The pre-marked line on the membrane edge can also be used as a guide for positioning splice tape.

B. When the membrane is contaminated with dirt, fold the top sheet back and clean the dry splice area (minimum 3" wide) of both membrane sheets by scrubbing with clean natural fiber rags saturated with Sure-Seal Weathered Membrane Cleaner. When using Sure-Seal (black) PRE-KLEENED membrane, cleaning the splice area is not required unless contaminated with field dirt or other residue.

C. Apply EPDM Primer to splice area and permit to flash off.

D. When adhering Factory Applied Tape (FAT), pull the poly backing from FAT beneath the top sheet and allow the top sheet to fall freely onto the exposed primed surface. Press top sheet on to the bottom sheet using firm even hand pressure across the splice towards the splice edge.

E. For end laps, apply 6" SecurTAPE to the primed membrane surface in accordance with the manufacturer's specifications. Remove the poly backing and roll the top sheet onto the mating surface.

F. Tape splices must be a minimum of 6" wide using minimum 6" wide SecurTAPE extending 1/8" minimum to 1/2" maximum beyond the splice edge. Field splices at roof drains must be located outside the drain sump.

G. Immediately roll the splice using positive pressure when using a 2" wide steel roller. Roll across the splice edge, not parallel to it. When FAT is used, Carlisle's Stand-Up Seam Roller can be used to roll parallel to the splice edge.

H. At all field splice intersections, apply Lap Sealant along the edge of the membrane splice to cover the exposed SecurTAPE 2" in each direction from the splice intersection. Install Carlisle's Pressure-Sensitive "T" Joint Covers or a 6" wide section (with rounded corners) of Sure-Seal Pressure-Sensitive Elastoform Flashing over the field splice intersection.

3.06 FLASHING

A. Wall and curb flashing shall be cured EPDM membrane. Continue the deck membrane as wall flashing where practicable. Use Pressure-Sensitive Curb Wrap when possible to flash curb units.

B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.07 METAL EDGING

A. 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 roofing manufacturer. Approval 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.

1. Position the membrane over the roof edge and down outside face of wall covering wood nailer(s) completely. Allow minimum of ½ inch excess membrane. Install all seams making sure there are no voids in welds.

2. Apply a 3/8 inch bead of sealant to the intersection of the right angle of the clean base rail. Install base rail from right to left as seen from rooftop.

3. Fasten base rail using galvanized annular ring nails, penetrating 1-1/4" into wood nailer. Fasten two rows 1" from top and 1" from bottom of hook strip (base rail), staggered every 3". Refer to manufacturer's installation instructions for high-wind nailing. Withdrawal resistance shall be 100 lbs. per fastener, minimum. Exercise caution at perimeter of roof. Workers shall follow OSHA safety procedures.

4. Fascia covers are installed from right to left as seen from rooftop. Position fascia cover on top of base rail and overlap preceding panel by a minimum of 2" at notches provided. Fasten using galvanized annular ring nails, penetrating 1-1/4" into wood nailer 1" from back edge at 4" o.c., staggered using carbon-steel, corrosion-resistant screws meetng FM 4470 criteria (0.21" shank dia. And 0.26" thread dia).
Refer to manufacturer's installation instructions for high-wind nailing. Snap covers into place. Field cut where necessary. Exercise caution at perimeter of roof. Workers shall follow OSHA safety procedures.

5. Continuous perimeter wood nailers shall be minimum 2"x6" treated, Douglas Fir or Southern Yellow Pine. Height shall match 'cover' board surface to which membrane is to be applied.

3.08 METAL FLASHINGS

A. Conform to applicable portions of Section 07620, herein which are not described below. Comply with the most stringent and more costly.

B. 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).

C. Metal, other than that provided by the roofing manufacturer shall be covered under the Applicator's warranty.

D. Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily.

E. Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion and contraction.

F. Metal joints shall be watertight.

G. Metal flashings shall be securely fastened into solid wood blocking. Fasteners shall penetrate the wood nailer a minimum of 1 inch.

H. Airtight and continuous metal hook strips are required behind metal fascias. Hook strips are to be fastened 12 inches on center into the wood nailer or masonry wall.

I. Counter-flashings shall overlap base flashings at least 4 inches.

3.09 WALKWAYS

A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the Drawings.

B. Adhere walkways pads or rubber pavers to the EPDM membrane in accordance with the manufacturer's specifications.

3.10 DAILY SEAL

A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a watertight daily seal must be performed.

3.11 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. The stagger of the insulation joints shall be made even by installing partial panels of insulation. 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 elsewhere herein. 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.

3.12 CLEAN UP

A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.

B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.13 SALVAGE

A. The Owner reserves the right to salvage any or all existing materials. Anything not salvaged by the Owner becomes the Contractor's responsibility to dispose of properly at no additional cost to the Owner.

END OF SECTION

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Provide new metal flashing and sheet metal where it currently exists and where not specifically described in other Sections of these Specifications but required to prevent penetration of water through the exterior shell of the building as intended to be provided as a part of the re-roofing work.

B. Contractor is strongly advised to field verify existing roof conditions and become familiar with the scope of work during bidding procedures. Contractor shall notify the Architect, prior to submitting bid, of obvious errors or omissions that may exist on the drawings or herein.

C. New roofing and new roof accessories shall be installed in compliance with these Contract Documents and in compliance with the manufacturer's current roofing specifications and details, whichever is more stringent.

D. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of "Architectural Sheet Metal Manual" published by the Sheet Metal and Air Conditioning Contractors National Association (SMACNA).

C. Standard commercial items may be used for flashing, trim, reglets, and similar purposes provided such items meet or exceed the quality standards specified.

1.03 SUBMITTALS

A. Comply with pertinent provisions of Section 01 33 00.

1.04 PRODUCT REQUIREMENTS

A. Comply with pertinent provisions of Section 01 60 00.

PART 2 - PRODUCTS

2.01 MATERIALS AND GAUGES

A. Applications:

1. Exterior wall flashing and expansion joints.
2. Sheet metal accessories.

B. Where sheet metal is required and no material or gauge is indicated on the Drawings, provide the highest quality and gauge commensurate with the referenced standards.

2.02 ALUMINUM (when and where specified)

A. Aluminum Sheet ASTM B209, 5005 alloy, H34 temper; 040 inch thick; mill finish shop pre-coated with thermal setting polyester enamel of color as selected by Architect.

B. Extruded Aluminum: 6063-T52, clear anodized, 0.080 inches for primary legs of extrusion

2.03 LEAD-COATED COPPER (L.C.C.)

A. Where lead-coated copper is specified on the drawings and/or where required to be replaced in the field, copper shall be coated on both sides with lead weighing 6 to 7-1/2 pounds per 100 square feet for each side. Lead-coated sheet shall conform to ASTM Specification B101, Type I, Class A.

B. Lead coating shall be applied by hot dip process. Weights of lead-coated copper specified shall be weights of sheet copper exclusive of lead coating. All lead-coated copper shall have finish not rougher than Leadtex 15. Weight of all lead-coated copper shall be 20 oz. per sq. ft. unless otherwise noted elsewhere herein and/or on the drawings.

C. Scuppers, gutters and downspouts shall be of the same size and configuration as existing and shall meet or exceed the requirements of paragraph 2.03, A and B, above.

2.04 STAINLESS STEEL

A. If applicable, provide stainless steel items in accordance with Section 05500, Metal Fabrications.

2.05 NAILS, RIVETS, AND FASTENERS

A. Use compatible fastening materials. Use only hot-dipped galvanized metal, copper or stainless steel fasteners where used in conjunction with preservative treated wood.

B. Unless otherwise specified on the drawings or herein, nails used for fastening copper shall be copper or hardware bronze of stronghold type, or equal, with large flat head. The shall be not smaller than No. 12 stubs gauge (0.109 inch) and of sufficient length to penetrate mounting surfaces not less than 7/8”.

C. Screws and bolts used for fastening copper shall be copper, bronze, or brass.

D. Use only soft iron rivets having rust-resistive coating, galvanized nails, and cadmium plated screws and washers in connection with galvanized iron and steel.

E. Use compatible fastening materials. Use only hot-dipped galvanized metal, copper or stainless steel fasteners where used in conjunction with preservative treated wood.

2.06 FLUX

A. Flux shall be muriatic acid killed with zinc. Acid shall be thoroughly washed off after soldering is completed.

2.07 SOLDER

A. Solder shall conform to ASTM Specifications B32 or Federal Specifications QQ-S-571.

B. Thoroughly clean and tin the joint materials prior to soldering.

C. Perform soldering slowly, with a well heated copper, in order to heat the seams thoroughly and to completely fill them with solder.

D. Perform soldering with a heavy soldering copper of blunt design, properly tinned for use.

E. Make exposed soldering on finished surfaces neat, full flowing and smooth.

F. After soldering, thoroughly wash acid flux with a soda solution.

2.08 SEALANTS

A. Conform to Section 07920, Sealants and Caulking.

2.09 EXPANSION JOINT COVERS, INSULATED (if applicable)

A. Expand-O-Flash INS, Style NCF-INS; 16 ounce per sq. ft. copper flanges; manufactured by Schuller, International, Inc.

2.10 PITCH POCKET ASSEMBLIES

A. Two-piece, 20-ounce per sq. ft. lead coated copper base and cap:

1. Fabricate as indicated, with minimum 8 inch base flange on base unit.

2.11 VENT STACK COUNTER FLASHING SLEEVES

A. Two-piece, 20-ounce per sq. ft. lead coated copper sleeves:

1. Sleeve collar, full height of vent stack, with minimum 8 inch base flange.

2. “Doughnut” shaped cap, with minimum 1 inch outside sleeve overlap, and 1 inch, interior downward return.

B. Fabricate in conformance with SMACNA Manual Plate 66, Figure B, and with the above.

2.12 MASONRY WALL COUNTER FLASHINGS

A. Fabrication similar to metal trim, and as indicated on drawing detail.

2.13 GALVANIZED IRON

A. Provide sheet metal or sheet iron of a standard brand of open-hearth copper-bearing steel, copper molybdenum iron, or pure iron sheets.

B. Zinc coating:

1. Where galvanizing is required, provide zinc coating by hot-dip galvanize to all surfaces.

2. Weight:
   a) Provide not less than 1-1/4 oz per sq. ft., nor more than 1-1/2 oz per sq. ft., to surfaces required to be galvanized.

3. Comply with ASTM A93.

2.14 OTHER MATERIALS

A. Custom Roof Curbs:

1. Provide roof curbing as manufactured by Custom Curb Inc., 3005 South Hickory Street, Chattanooga, Tennessee 37407, at all roof openings described or shown on the drawings.

2. Provide model CRC-3, box section design, (14) gauge galvanized steel construction, continuous mitered and welded corner seams, integral base plate, pressure-treated nailer and shall be insulated with 1-1/2" thick rigid fiberglass board insulation.

3. Weld, bolt or screw all curbing to roof substructure. Install in accordance with manufacturer written instructions.

4. Size: Field verify. Match existing dimensions of dimensions to suit new requirements.

B. Provide other materials not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the A/E.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

B. Verify that vents through roof are solidly set, and nailing strips located to details included in the SMACNA Manual.

C. Verify that roofing termination and base flashings are in place, sealed and secured.

3.02 INSTALLATION OF METAL TRIM, VENT COUNTER FLASHINGS, AND PITCH POCKETS.

A. Conform to drawing details included in SMACNA Manual.

B. Secure metal trim in place using concealed fasteners. Use exposed fasteners only where permitted by Architect.

C. Match existing flashings and counterflashings - Remove and dispose existing where directed or where existing at masonry areas to be restored.

D. Fit metal trim tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

E. Seal metal joints watertight.

F. Cap flashing, lap base flashing minimum of 4" with bottom edge folded to provide spring action to hold bottom tightly against base.

G. Lock Strips: Continuous.

H. Turn exposed edges back 1/2".

3.03 INSTALLATION OF EXPANSION JOINT COVERS

A. Install in accordance with Manufacturer's specifications.

B. Provide bituminous interface where contact between copper flanges and other metals may occur.

3.04 WORKMANSHIP

A. General:

1. Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp and strait lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.

B. Form, fabricate and install sheet metal so as to adequately provide for expansion and contraction in the finished work.

C. Weatherproofing:

1. Finish watertight and weathertight where so required.

2. Make lock seam work flat and true to line, sweating full of solder.

3. Make lock seams and lap seams, when soldered, at least 1/2" wide.

4. Where lap seams are not soldered, lap according to pitch, but in no case less than 3".

5. Make flat and lap seams in the direction of flow.

D. Joints:

1. Join parts with rivets or sheet metal screws where necessary for strength and stiffness.

2. Provide suitable watertight expansion joints for runs more than 40' - 0", except where closer spacing is indicated on the Drawings or required for a complete and proper installation.

E. Nailing:

1. Whenever possible, secure metal by means of clips or cleats, without nailing through the exterior metal.

2. In general, space nails, rivets, and screws not more than 8" apart and, where exposed to the weather, use lead washers.

3. For nailing into wood, use barbed roofing nails 1-1/2" long by 11 gauge.

4. For nailing into concrete, use drilled plug holes and plugs.

3.05 TESTS

A. Upon request of the Architect, demonstrate by hose or standing water that the flashing and sheet metal are completely watertight. Do so at no additional cost to the Owner.

END OF SECTION

SECTION 07800

ROOFTOP UNIT CURBS

PART 1 - GENERAL

1.01 SUMMARY

A. Provide roof curbs as specified on the Drawings and herein..

1.02 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.

B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.

1.03 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Heat and Smoke Vent Insurance Requirements: UL and FM approval or acceptance.

PART 2 - PRODUCTS

2.01 MATERIALS

A. HVAC Equipment Curb; as manufactured by Greenheck, P.O. Box 410, Schofield, WI 54476, Tel; (715) 359-6171, or as approved equal; with the following attributes:

1. 14 gauge galvanized steel.

2. Polystyrene insulated curb, 1-1/2” thick.

3. Custom sized to bear on new or existing structure.

4. Coordinate opening with mechanical ductwork locations.

5. Coordinate the installation with the roofing contractor and the work of all other trades.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with accessory manufacturer’s instructions and recommendations. Coordinate installation with roofing system to ensure weathertight performance. Anchor securely to structure to withstand inward and outward loads.

B. Isolate dissimilar metals to prevent galvanic corrosion.

C. Test and operate units; clean, lubricate and adjust moving parts. Leave units ready for field painting.

END OF SECTION

SECTION 07810

AUTOMATIC SMOKE VENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Work Included: Provide factory-fabricated double-leaf automatic smoke vents.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's product data.

B. Shop Drawings: Submit shop drawings including profiles, accessories, location, fusible links, adjacent construction interface, and dimensions.

C. Warranty: Submit executed copy of manufacturer's standard warranty.

1.3 QUALITY ASSURANCE

A. Manufacturer: A minimum of 5 years of experience manufacturing similar products.

B. Installer: A minimum of 2 years of experience installing similar products.

C. Manufacturer's Quality System: Registered to ISO 9001:2008 Quality Standards including in-house engineering for product design activities.

1.4 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 delivering carrier and note such damage on the carrier's freight bill of lading.

1.5 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's standard warranty. Materials shall be free of defects in material and workmanship for a period of five years from the date of purchase. Should a part fail to function in normal use within this period, manufacturer shall furnish a new part at no charge.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design Manufacturer: Type ACDSH Double-Leaf Automatic Roof Fire Vent by The BILCO Company, P.O. Box 1203, New Haven, CT 06505, 1-800-366-6530, Fax: 1-203-535-1582, Web: www.bilco.com, or as approved equal by the Architect.

2.2 AUTOMATIC ROOF FIRE VENT

A. Furnish and install where indicated on plans metal fire vent Type ACDSH, size: 117” length x 76” width. Length denotes hinge side. The roof fire vent shall be double leaf. The roof fire vent shall be preassembled from the manufacturer.

B. Performance characteristics:

1. Vent(s) shall be UL listed.
2. Covers shall be reinforced to support a minimum live load of 40 psf (195 kg/m^2) with a maximum deflection of 1/150th of the span or 90 psf (439 kg/m^2) wind uplift.
3. Corrosion resistant gas springs shall open the vent covers simultaneously when latch is manually released or when heat breaks the UL listed fusible link. Opening shall be in a controlled manner to avoid damage to surrounding roof surfaces.
4. Entire roof fire vent shall be weathertight with fully welded corner joints on cover and curb.
5. Latch mechanisms shall hold the covers in the closed position without overstressing the fusible link and withstand 90 psf (439 kg/m^2) wind uplift forces acting on the cover.
6. Latch operation: When heat parts the UL listed fusible link, the latch shall release instantaneously, allowing vent covers to open. The latch shall be designed for easy resetting, after a fire or test, so that the covers cannot be latched closed unless the mechanism has been reset properly. Manufacturer shall provide instructions for resetting the latch with each unit.
7. Sound Transmission Rating: Vent(s) shall carry STC-46 sound rating.

C. Covers: Shall be 14 gauge (1.9mm) paint bond G-90 galvanized steel with a 5" (127mm) beaded flange with formed reinforcing members. Contractor shall provide field application of paint per Division 09910, Painting.

D. Gasket: PVC gaskets shall be permanently adhered to the underside of the covers and on top of the curb.

E. Cover insulation: Shall be fiberglass of 3" (76mm) in thickness, fully covered and protected by a 14 gauge (1.9mm) paint bond G-90 galvanized steel liner.

F. Curb: Shall be 12" (305mm) in height and of 14 gauge (1.9mm) paint bond G-90 galvanized with a fixed center channel. Curb shall be formed with a 5" (127mm) flange with 7/16" (11mm) holes provided for securing to roof deck. Curb shall be equipped with integral metal cap flashing of the same gauge and material as the curb and feature the Bil-Clip® flashing system, including stamped tabs, 6" (153mm) on center, to be bent inward to hold single-ply roofing membrane securely in place.

G. Curb insulation: Shall be 3" (76mm) fiberglass insulation, fully enclosed by a 14 gauge (1.9mm) paint bond G-90 galvanized steel liner.

H. Lifting mechanisms: Corrosion resistant gas springs open covers automatically against a 10 lb/ft^2 (49Kg/m^2) snow/wind load. Gas springs shall have built in dampers to assure a controlled rate of opening and automatically lock the covers in the full open position. A release mechanism shall be provided to allow the covers to be closed.

I. Latch mechanism: Shall be the BILCO Thermolatch® II positive hold/release mechanism with a separate latching point for each cover controlled by a single UL listed 165°F (74°C) fusible link. Fusible link shall be curb mounted on a non-hinged end to allow the latching mechanism to be easily reset from the roof level.

J. Hardware: Corrosion resistant gas springs and hot dip galvanized steel stop cables. All other hardware is zinc plated/chromate sealed.

K. Finish: Factory finish shall be alkyd base red oxide primer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and openings for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install products 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. Test fusible link and install replacement fusible link after testing.
3. Repair finishes damaged during installation.
4. Restore finishes so no evidence remains of corrective work.

3.3 ADJUSTING AND CLEANING

A. Clean exposed surfaces using methods acceptable to the manufacturer which will not damage finish.

END OF SECTION

SECTION 07811

PLASTIC SKYLIGHTS

PART 1-GENERAL

1.1 SUMMARY

A. This section includes the following:
   1. Curb-mounted plastic unit skylights.
      a. Standard triple dome configuration.

B. Related Sections: The following sections contain requirements that relate to this section:
   1. Division 6 Section “Rough Carpentry” for wood nailers.
   2. Division 7 Section “Rooftop Unit Curbs” for curbs.
   3. Division 7 Section “Sheet Metal Flashing and Trim” for metal flashing for skylights.

C. Refer to roofing system sections for roofing accessories to be built into the roofing system to accommodate work of this section.

1.2 PERFORMANCE REQUIREMENTS

A. General: Provide unit skylights capable of withstanding loads as prescribed by the prevailing code for the project location.
B. Unit skylights must be tested in accordance with AAMA\WDMA\CSA\101\I.S.2\A440 as required by Section 2405.5 of the International Building Code.
C. Unit skylights must be tested and certified by NFRC for thermal performance. Products must be listed on the NFRC Certified Products directory.
D. System Performance Requirements:
   1. Triple dome models:
      i. U-factor shall be .46 BTU/HR-ft2-F maximum per NFRC 100
      ii. SHGC shall be .37 maximum per NFRC 200
      iii. Visible Light Transmission not less than 55%

E. Units shall be impact tested to 775 ft-lbs to comply with the intent of OSHA fall protection regulation 29 CFR 1910.23 (e)(8).

1.3 SUBMITTALS

A. Product Data Sheet: For each type of skylight specified, include details of construction and installation, relative to applicable roofing materials.
B. Samples for Selection: Manufacturer’s color charts showing a full range of colors available for each type of skylight glazing and aluminum finish.

1.4 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide Thermoformed domes fabricated from sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.

   1. Self-Ignition Temperature: 651 deg F (343 deg C) or greater when tested per ASTM D 1929 on plastic sheets in the thickness intended for use.

2. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in the thickness intended for use.
3. Relative- Burning Characteristics: As follows, when tested per ASTM D 635:
    a. Acrylic: Burning extent of 2.5 inches (64mm) per minute or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.

B. Provide plastic produced in accordance with ASTM D 4802, thermoformable, Category C-2 or CC-2 Type UVA (formulated with ultraviolet absorber), with Finish 1 (smooth or polished), unless otherwise indicated.

1.5 WARRANTY

A. General: Warranties specified in this section shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.
B. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weather-tight and leak-free performance. “Defects” is defined as uncontrolled leakage of water and abnormal aging or deterioration.
    1. Warranty Period: 2 years from date of Substantial Completion.
C. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. “Defects” is defined as abnormal aging or deterioration.
    1. Warranty Period: 2 years from date of Substantial Completion against yellowing or breakage.
D. Finish Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work with finish defects. “Defects” is defined as peeling, chipping, chalking, fading, abnormal aging or deterioration, and failure to perform as required.
    1. Warranty Period for Kynar 500 Finish: 5 years from date of Substantial Completion. (10 and 20 years available if specified).

PART 2- PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by Wasco Products, Inc., Wells, ME (800-388-0293), or as approved equal in writing by the Architect.
B. Substitutions: Manufactures shall not be considered without prior approval in writing no later than ten (10) calendar days after the bid submission. Substitute manufacturers must have been in the custom skylight business for not less than a period of 15 years and must submit to the Architect the following:
    1. List of similar projects successfully completed within the last five years.
    2. Proof of financial capability.
    3. Complete details of proposed skylight.
    4. Complete specifications for Architect’s review.
    5. Test reports showing units have been tested with NFRC
    6. NFRC Certified Products Directory (CPD#) number.

2.2 MATERIALS

A. Curb Frame: High performance PVC with minimum effective thickness of 0.060 inch (1.5mm). Provide integral condensation gutter system with corners fully welded for waterproof quality.
B. Retainer Frame: Extruded aluminum alloy 6063-T5 (min). ASTM B 221 (ASTM B 221 M) with minimum effective thickness of 0.60 inch (1.5 mm).

C. Plastic Sheets: Monolithic, formable, transparent (colorless) or translucent (white) sheets with good weather and impact resistant.
D. Thermal Break: Fabricate skylight units with thermal chambered PVC.
E. Gaskets: Structural glazing tape to form adhesive bond between PVC curb and inner dome and between inner and outer dome. Butyl tape between outer dome and extruded aluminum retainer. Gaskets form an air and water impenetrable barrier between adjacent surfaces.
F. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other non-corrosive metal as recommended by manufacturer.

2.3 PLASTIC SKYLIGHT UNITS

A. General: Factory-assembled, curb-mounted unit consisting of plastic glazing, gasketing, inner frame designed to mount on separate curb, and self-contained flashing.
    1. Products: This specification is based on EcoSky model DDDSS2, meeting the requirements of this section.
B. Curb: Pre-Fabricated Curbs (Refer to Section 07800 Rooftop Unit Curbs)
    1. Height: Minimum 8" above finished roofing.
C. Condensation Control: Fabricate skylight units with integral internal gutters and weeps to collect and dispose of condensation.
D. Thermal Break: Fabricate skylight units with thermal chambered PVC.
E. Shape and Size: As indicated by model number.
F. Outer Glazing: Dome thermoformed:
    a. Continuous Cast Acrylic; Acrylite® Satin Sky 2 translucent.
G. Middle Glazing: Thermoformed Dome
    a. Impact Modified Acrylic: Clear.
H. Inner Glazing: Thermoformed Dome:
    a. Impact Modified Acrylic Clear.

2.4 FABRICATION

A. Framing Components: As follows:
    1. Factory-fit and assemble components.
    2. Fabricate components to drain condensation and moisture occurring or migrating within skylight system to the exterior.
    3. Fabricate components to accommodate expansion, contraction, and field adjustment, and to provide for minimum clearance and shimming at skylight perimeter.
    4. Fabricate components to ensure that glazing is thermally and physically isolated from framing members.
    5. Fit and secure joints in aluminum by heliarc welding.

2.5 ALUMINUM FINISHES FOR GLAZING RETAINER

A. General: Comply with NAAMM “Metal Finishes Manual” recommendations for application and designations of finishes.
B. Finish designations prefixed by AA conform to the system for designations of aluminum finishes established by the Aluminum Association.
    1. Clear-Anodized Finish, Class I: AA-C22A41 complying with AAMA 611.

PART 3- EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting skylight performance.
    b. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions for protecting, handling, and installing skylight components.
B. Coordinate with installation of roof deck and other substrates to receive skylight units.
C. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that each element of the work performs properly and that combined elements are waterproof and weather tight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.
D. Counter Flashing: Where counter flashing is required as a component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counter flashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

3.3 CLEANING AND PROTECTION

A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.
B. Clean plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion.

END OF SECTION

SECTION 07820

ROOF HATCH

PART - GENERAL

1.01 DESCRIPTION:

A. Provide new roof hatch assemblies, complete with curb and new painted wood trim finish at interior. Scrape, sand, wash, patch, repair, fully restore, prime and paint entire well leading to roof hatch.

B. Related Work Specified Elsewhere:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

C. Site Visit:

1. Bidders shall visit the site and carefully examine the areas in question as to 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 in advance with the Owner or Architect.

1.02 SUBMITTALS:

A. Manufacturer's literature.

B. Shop Drawings: Show connection details to roof structure, etc.

C. Conform to pertinent portions of Section 01 33 00, herein.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver to site in original manufacturer's packaging.

B. Store in area protected from weather and damage.

C. Conform to pertinent portions of Section 01 60 00, herein.

1.04 DESIGN CRITERIA:

A. Thermal Expansion:

1. System shall provide for expansion and contraction within the system components caused by a cycling temperature range of 100 deg. F without causing any detrimental effects to the system or components.

B. Structural Criteria:

1. The roof hatch assembly shall be designed and constructed in accordance with the Massachusetts State Building Code and other applicable codes, whichever is most stringent.

C. Moisture Control/Water Resistance:

1. The roof hatch assembly shall have integral condensation gutters that collect all condensation and/or infiltrated water.

D. Independent Test Certification:

1. Roof hatch assembly shall be certified by an independent test lab to meet the following minimum criteria:
   a.) No uncontrolled leakage at 15 PSF when tested per ASTM E331-86.
   b.) Maximum air infiltration of .06 CFM at 6.24 PSF when tested per ASTM E283-84.
   c.) Frames to have minimum condensation resistance factor (CRF) of 54 when measured per AAMA 1503.1-1980.
   d.) Maximum deflection of L/175 at 60 PSF when tested in accordance with ASTM E330-86 permanent set to be less than L/500.

E. All testing costs shall be included in the Base Bid amount.

PART 2 - PRODUCTS

2.01 MANUFACTURER:

A. Bilco or equal approved by the Architect.

2.02 MATERIALS:

A. Roof Hatch:

1. Bilco type; “F-50” single leaf, 48” x 48”, mill finish aluminum.
2. Minimum 1-hour U.L. approved fire rating.
3. Lockable from interior.
4. See drawings for details and locations.
5. Quantity: One (1)- located at Roof Level 5.
6. Field verify all dimensions and conditions prior to ordering.

B. Sealants and joint fillers shall be one part low modulus silicone that is compatible with adjacent materials and/or as specified elsewhere herein, whichever is recommended and accepted by the roof hatch manufacturer. Verify prior to submitting bid.

C. Fasteners:

a. Fasteners used for the attachment of exterior parts shall be of 300 series stainless steel.
b. Fasteners used for all anchors shall be cadmium plated or galvanized steel.
c. Fasteners used to connect framing members may be of 300 series stainless steel or 2024 aluminum.

D. Coordinate the installation with the work of all other trades.

2.03 FABRICATION:

A. The roof hatch assembly shall be shipped to the jobsite, factory-fitted and assembled.

B. All welding shall be by the heliarc process.

C. The roof hatch assembly shall have properly located weep holes provided for drainage of condensation to the exterior.

PART 3 - EXECUTION

3.01 SURFACE CONDITION:

A. Inspection:

1. Bidders shall visit the site and examine the existing roof hatch and opening as to conditions which may affect proper execution of the work. All dimensions and quantities shall be determined or verified by the Contractor prior to submitting his bid. No claims for extra costs will be allowed because of lack of full knowledge of the existing conditions.

2. Submit shop drawing catalog cuts to Architect for review prior to ordering new equipment.

3. Prior to all work of this Section, inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

4. Verify that roof hatch assembly is installed in accordance with the manufacturer's recommendations.

5. Field verify and coordinate all dimensions and existing conditions.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Architect.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 PREPARATION:

A. Surface contact between aluminum and dissimilar materials shall receive a protective coating or isolator to prevent electrolytic action.

3.03 ERECTION:

A. The roof hatch assembly shall be installed by an experienced installer familiar with the manufacturer's systems and installation procedures.

3.04 CLEAN-UP:

A. Clean all excess roofing material from roof hatch.

END OF SECTION

SECTION 07920

SEALANTS AND CAULKING

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work Included: Throughout the work seal and caulk joints where shown on the drawings and elsewhere as required to provide a positive barrier against passage of moisture and passage of air.

B. All necessary packing and back-up material shall be provided at existing locations and as required for a complete and proper installation. Manufacturer's printed recommendations for the preparation of surfaces and handling, mixing and installation of caulking and sealing compounds shall be strictly followed.

C. Related Work:

1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

1.03 SUBMITTALS:

A. Comply with pertinent provisions of Section 01 33 00.

B. Product Data: After the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items proposed to be provided under this Section.

2. Manufacturer's specifications and other data needed to provide compliance with the specified requirements.

3. Manufacturer's recommended installation procedures which, when approved by the A/E, will become the basis for accepting or rejecting actual installation procedures used on the work.

4. Color samples.

C. Samples: Accompanying the submittal described above, submit samples of each sealant, each backing material, each primer, and each bond breaker proposed to be used.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Comply with pertinent provisions of Section 01 60 00.

B. Do not retain or use at the job site, material which has exceeded the shelf life recommended by its manufacturer.

PART 2 - PRODUCTS

2.01 SEALANTS:

A. Except as otherwise specifically approved by the A/E, use only the types of sealants described in this article.

B. Provide two-component, rubber based compound complying with FED. Spec. TT-S-00227E, Type 2, Class A with each color of sealant and each class of sealant the product of a single manufacturer selected from the following, or equal products approved in advance by the A/E.

C. For all joints at aluminum and aluminum-to-masonry: Tremco Primer #10; Sealing Compound; Tremco Spectrum 1-(1) part, moisture-curing silicone joint sealant.

D. For all joints at metal-to-glass: Sealing Compound; Tremco Spectrum 2- High-performance, neutral-cure, general-purpose silicone sealant.

E. For all joints at exterior masonry: Tremco Dymonic 100 1-part urethane sealant.

F. Caulking compound of the 1-part acrylic-type Tremco Tremflex 834 shall be used for sealing all joints on the building interior where “caulking” is indicated and required.

G. For all repairs to exterior masonry: Sikaflex-2c, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, OH 43302. The joint sealant shall be a two-component, non-sag polyurethane-base material. It shall be applicable in horizontal, vertical, and overhead joints. The sealant shall be principally a chemical cure to form an elastomeric substance.

H. For other services, provide products especially formulated for the proposed use and approved in advance by the A/E.

I. Colors:

1. Colors for each sealant installation will be selected by the A/E from standard colors normally available from the specified manufacturers.

2. Should such standard color not be available from the approved manufacturer except at additional charge, provide such colors at no additional cost to the Owner.

J. In concealed installations and in partially or fully exposed installations where so approved by the A/E, use standard gray or black sealant.

2.02 FIRE STOP SYSTEM FOR FLOOR & WALL PENETRATIONS:

A. Fyre-Shield (Firestop): Provide intumescent acrylic sealant at all wall and floor penetrations where fire rated assembly is specified, provide where penetrations such as but not limited to sprinklers, electrical, mechanical, piping, etc. are present.

B. Manufacturer: TREMCO, Beachwood, Ohio. Tel. #: 1-800-321-7906.

C. Specification Requirements:
- ASTM E814/UL 1479
- ASTM E84/UL723

D. Approvals:
- ICC/IBC

E. Color: Light red

2.03 PRIMERS:

A. Use only those primers which are non-staining, have been tested for durability on the surfaces to be sealed, and are specifically recommended for this installation by the manufacturer of the sealant used.

B. In general, use Tremco Primer “A” for porous surfaces, Primer B for non-porous surfaces. Provide in strict conformance with manufacturer’s written instructions.

2.04 BACK-UP MATERIALS:

A. Use only those back-up materials which are specifically recommended for this installation by the manufacturer of the sealant used, which are nonabsorbent, and which are non-staining.

B. Backing: Joints shall be backed with a close-cell butyl or neoprene rod; with a minimum shore “A” of 70 unless otherwise noted elsewhere. A solid base shall be provided below the joint backing utilizing sand, multiple layers of joint backing, etc., in order to support the sealant. It is important that the backdrop material be of a type to which the sealant does not adhere in a working joint.

C. Acceptable Types Include:

1. Closed-cell resilient urethane or polyvinyl-chloride foam;
2. Closed-cell polyethylene foam;
3. Closed-cell sponge of vinyl or rubber;
4. Polycholooprene tubes or beads;
5. Polyisobutylene extrusions; and
6. Oil-less dry jute.

D. Do not block weep holes

2.05 BOND PREVENTATIVE MATERIALS:

A. Use only one of the following as best suited for the application, and as recommended by the manufacturer or the sealant used:

1. Polyethylene tape, pressure-sensitive adhesive, with the adhesive required only to hold tape to the construction materials as indicated.

2. Aluminum foil complying with MIL-A-148E.

3. Wax paper complying with Fed. Spec. UU-P-270.

2.06 MASKING TAPE:

A. For masking around joints, provide masking tape complying with Fed. Spec. UU-T-106c.

2.07 OTHER MATERIALS:

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the A/E.

PART 3- EXECUTION

3.01 SURFACE CONDITIONS:

A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION:

A. Concrete and Masonry Surfaces:

1. Install only on surfaces which are dry, sound, and well brushed, wiping free from dust.

2. At open joints, remove dust by mechanically blown compressed air, if so required.

3. Use solvent to remove oil and grease, wiping the surfaces with clean rags.

4. Where surfaces have been treated, remove the surface treatment by sandblasting, wire brushing or grinding.
5. Remove laitance and mortar from joint cavities.

6. Where backstop is required, insert the approved backup material into the joint cavity to the depth needed.

7. Joints and spaces filled with sealant greater in depth than the width of the joint shall be filled so that the depth of the joint shall be equal to the width of the joint. The depth of the joint shall not be less than 3/8". Packing for the joints shall be of the materials specified. Packing shall provide a firm back-up for the sealant via the manufacturer's written instructions.

8. Joints and spaces caulked with Tremco Dymeric sealant shall not be more than 3/8" wide by 3/8" deep. Minimum size of joints caulked shall be recommended by the manufacturer. Joints more than 3/8" in depth shall be packed as specified.

9. Color: As selected by the A/E.

10. Priming: As recommended by the sealant manufacturer.

B. Steel Surfaces in Contact with Sealant:

1. Sandblast as required or prepare surfaces in accordance with manufacturer written instruction to achieve acceptable surface for bond.

2. If sandblasting is not practical, or would damage adjacent finish, scrape the metal or wire brush to remove mill scale.

3. Use solvent to remove oil and grease, wiping the surfaces with clean rags.

4. Remove protective coatings on steel by sandblasting or by using a solvent which leaves no residue.

C. Aluminum Surfaces in Contact with Sealant:

1. Remove temporary protective coatings, dirt, oil, and grease.

2. When masking tape is used for protective cover, remove the tape just prior to applying the sealant.

3. Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturer of the aluminum work, and which are non-staining.

3.03 INSTALLATION OF BACK-UP MATERIAL:

A. Use only the back-up material recommended by the manufacturer of the sealant used, and approved by the A/E for the particular installation, compressing the back-up material 25% to 50% to achieve a positive and secure fit.

B. When using back-up tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod back-up stock.

3.04 BOND-BREAKER INSTALLATION:

A. Provide an approved bond-breaker where recommended by the manufacturer of the sealant, and where directed by the A/E, adhering strictly to the installation recommendations as approved by the A/E.

3.05 INSTALLATION OF SEALANTS:

A. Prior to start of installation in each joint, verify the joint type according to details on the drawings, or as otherwise directed by the A/E, and verify that the required proportion of width of joint to depth of joint has been secured.

B. Equipment:

1. Apply sealant under pressure with power-actuated or hand gun, or by other appropriate means.

2. Use guns with nozzle of proper size and providing sufficient pressure to completely fill the joints as designed.

C. Thoroughly and completely mask joints where the appearance of sealant on adjacent surfaces would be objectionable.

D. Install the sealant in strict accordance with the manufacturer's recommendations as approved by the A/E, thoroughly filling joints to the recommended depth.

E. Tool joints to the profile shown on the drawings, or as otherwise required if such profiles are not shown on the drawings.

F. Cleaning Up:

1. Remove masking tape immediately after joints have been tooled.

2. Clean adjacent surfaces free from sealant as the installation progresses, using solvent or cleaning agent recommended by the manufacturer of the sealant used.

END OF SECTION

SECTION 08100

STEEL DOORS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Furnish and install standard hollow metal doors as specified or shown on plans and schedules.

B. Related Work Specified Elsewhere:

1. Documents affecting work of this section include, but are not necessarily limited to, General conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

B. Unless otherwise specifically approved by the Architect, provide all products of this section from a single manufacturer.

C. Where fire-rated assemblies are indicated or required, provide assemblies that comply with NFPA-80 and have been tested, listed and labeled in accordance with ASTM E-152 by a nationally recognized independent testing and inspection agency acceptable to the authorities having jurisdiction.

D. No product shall be manufactured prior to receipt of approved hardware information and templates.

E. Other Reference Standards:

1. American National Standards Institute (ANSI)
   a) ANSI A115 series on door preparation.

2. Steel Door Institute (SDI). Technical Data Series.

3. Federal Specification (FS) RR-O-5758, Type II, Heavy Duty, 1-3/4”, Style 2, Full Flush, Hollow Steel Construction.

1.03 SUBMITTALS:

A. Comply with pertinent other provisions of Section 01300 which are not specifically described below.

B. Show glass opening sizes and locations in doors.

C. Detail connections of hollow metal work to structural steel framing concealed in hollow metal work.

D. Detail joints required to accommodate expansion joint movement.

E. Submit manufacturer's product technical data substantiating that products comply with requirements.

F. All openings shall be labeled with the Architect's door number NOT the shop "TAG" number.

G. Elevations and large scale dimensioned sections shall be provided for each door type.

H. Indicate all hardware locations, gages, finishes and materials included in submittals.

I. Provide details showing anchors, wall conditions, and installation for each different condition.

J. Submit all necessary shop drawings to Architect for review of general conformance with the requirements of the Contract Documents, minimum (6) copies.

1.04 PRODUCT HANDLING:

A. Comply with pertinent other provisions of Section 01600 which are not specifically described below.

B. Products shall be marked at point of shipping with Architect's opening numbers.

C. Protect materials during shipment and storage.

D. Store doors upright and spaced off the floor to prevent damage from standing water.

E. Inspect all materials upon receipt for damage and notify both shipper and supplier in writing of damage found. If acceptable to the Architect minor damage can be repaired, refinished.

1.05 WARRANTY

A. All materials shall be warranted to be free from defects in materials and workmanship for a period of one year (1) from the time of substantial completion of the project as defined in the general conditions.

PART 2 - PRODUCTS

2.01 MATERIALS (DOORS):

A. Face sheets shall be of 18 ga. min. steel, all doors.

B. Internal Stiffeners:

1. Minimum 18 ga. steel.
2. Space at no over 6" centers.
3. Spot weld to face panels at maximum 5" intervals.
4. Vertical edges of face panels shall be joined and welded on maximum 6" centers, then ground smooth and filled with mineral filler to conceal seams.
5. Minimum 14 ga. Steel internal hinge channel reinforcing and lock channel.

C. Sound Deadening: Interior surfaces shall be treated with a sound deadening material to eliminate metallic ring.

D. Door Louvers: Not applicable

E. Glazing Stops: Not applicable

F. Vision Panel: Not applicable

G. Exterior Doors: Provide solid-core, fully weather-sealed polystyrene insulating door.

2.02 FRAMES:

A. Not applicable

2.03 FINISHING:

A. Doors shall be leveled and ground smooth.

B. Apply mineral filler to eliminate weld scars and other blemishes.

C. Give factory coat of rust-inhibitive metal primer. Interior doors shall receive a coat of air dry, vinyl base metal primer # MP-139 grey. Exterior doors using G.90 zinc shall receive a coat of mixed air dried primers #DZ3 and #DLT16.

D. Paint all surfaces and edges of door assembly.

2.04 PREPARATION FOR FINISH HARDWARE:

A. Prepare doors to receive hardware.

1. Hardware supplier shall furnish hollow metal manufacturer approved hardware include schedule, hardware templates, and samples of physical hardware where necessary to insure correct fitting and installation.

2. Preparation includes sinkage and cutouts for mortise and concealed hardware.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install doors in accordance with HMMA 840 and NFPA-80 to ensure fire ratings and proper operation of openings.

B. Follow manufacturer's instruction and apply hardware in accordance with hardware manufacturer's templates and written instructions.

I. Adjust operable door parts for correct function.

J. Remove hardware, with the exception of prime-coated items, tag, box, and reinstall after finish paint work is completed.

3.02 PRIME COAT TOUCH-UP:

A. Immediately after erection, areas where prime coat has been damaged shall be sanded smooth and touched up with the same primer as applies at shop.

B. Remove rust before above specified touch-up is applied.

C. Touch-up shall not be obvious.

D. Before job painting is started, finish on doors shall comply with finish on approved same.

E. At the time of installation, remove and debris created as a result of unpacking or installation.

F. Prior to building turnover, make a final inspection for proper operation, fit and tolerances. Make all necessary adjustments.

3.03 PROTECTION:

A. Protect installed hollow metal work against damage from other construction work.

END OF SECTION

SECTION 08710

FINISH HARDWARE

PART 1 - GENERAL

1.01 DESCRIPTION:

A. The work covered by these specifications shall include the furnishing and delivery to the job site of finish hardware, complete and in strict accordance with these specifications and the applicable drawings, and ready for complete and proper installation by the Contractor.

B. It shall be the sole responsibility of the Contractor to provide all necessary items of hardware required for a complete and proper installation. Any hardware item required and not definitely specified herein, or not specifically mentioned but necessary for complete installation of the work, shall conform in type and quality to the items specified and shall be provided by this Contractor as part of his Contract at no additional cost to the Owner.

C. Related Work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and sections in Division 1 of these Specifications.

1.02 SUBMITTALS:

A. Samples: The Contractor shall submit to the Architect and Owner for approval.

B. Schedule: The Contractor shall submit to the Architect for review, (5) copies of a complete and properly itemized schedule of all finish hardware be furnished under this Contract with the calling of each item clearly referred to as per manufacturer's code letters and numbers.

C. Templates: The complete template information necessary for the fabrication of doors and frames etc.

D. Manufacturer's Recommendations: Prior to installation, deliver to all installing personnel, complete recommendations from the manufacturer regarding installation methods.

1.03 GUARANTEE/QUALITY ASSURANCE:

A. All material furnished under this Contract shall be guaranteed free from defects by manufacturer for a period of one (1) year from the date of Final Acceptance of the building. Any defective material shall be removed and replaced at no expense to the Owner.

B. Qualifications of Supplier: The finish hardware supplier shall have in his employ an AHC member of the American Society of Hardware Consultants who shall be made available for consultation at no additional cost to the Owner and Architect during the course of construction.

C. Review by AHC: (or manufacturer's hardware consultant)
   1. The AHC shall be present at completion of the work, shall check the installation of all finish hardware, shall make all minor adjustments required and supervise all hardware replacements required. He shall report to the Architect on completeness of the installation.

   2. The Manufacturer's Hardware Consultant shall review and approve all submittals prior to Contractor ordering product.

D. Contractor and Manufacturer's Hardware Consultant shall verify that specified automatic closer/holder assembly is properly suited for each particular application. Do so prior to submitting bid. Submit shop drawings and shop drawing hardware schedule including type of closer/holder recommended for installation at each door/frame assembly location.

1.04 PACKING AND MARKING:

A. All hardware items required shall be individually packed, complete with all screws, bolts, washers and all other necessary accessories for proper installation. Each individual container shall be marked with item numbers corresponding to numbers on the approved schedule identifying contents and location of the item in the finished work. After delivery, this Contractor shall lay out all the hardware in a designated secure area and then check same with the General Contractor's representative.

B. Delivery:

1. Deliver all finish hardware to the installers in a timely manner to ensure orderly progress of the total work.

1.05 WORK INCLUDED:

A. All labor, materials, templates, equipment and services required to furnish and install the finish hardware complete as required by the drawings, as herein specified.

B. All electrical related work, refer to electrical drawings and specifications.

PART 2 - PRODUCTS

2.01 FASTENERS:

A. Furnish all finish hardware with all necessary screws, bolts and other fasteners of suitable size and type to anchor the hardware in position for long life under hard use.

B. Furnish fastenings where necessary with expansion shields, toggle bolts, sex bolts and other anchors approved by the A/E, according to the material to which the hardware is to be applied and the recommendations of the hardware manufacturer.

C. Design - all fastening shall harmonize with the hardware as to material and finish.

2.02 KEYING:

A. Final Keying System:

1. Grand master key all locks on the project to existing Great Grand Master Key System, factory keyed and/or as directed by Owner.

2. Cylinders shall have Special Keyway.

3. Deliver three (3) change keys for each lock plus three (3) master keys to the Owner.

4. Provide "Key Log" to Owner upon completion of project.

2.03 ACCEPTABLE MANUFACTURERS:

A. Catalog numbers used in the Hardware Schedule are taken from the indicated manufacturers and all finish hardware shall be the hardware specifically described unless otherwise directed by the Owner. Contractor shall consult Owner prior to ordering all hardware listed below.

B. Submit to Architect, written statement that Owner has reviewed and accepts specified hardware. Submit all revisions to Architect for review prior to ordering.

C. Field verify all dimensions prior to ordering – Contractor shall be responsible for dimensional correctness.

Hardware Doors:

ITEMS	MANUFACTURER	MODEL #
Butts (Hinges)	Stanley Bommer Ives	RD 749 Round Corner 3 EA Bommer BB5000 Series
Lever handle, lockset (knurled)	Schlage	Classroom Lock function: ND Series. Note: exterior side shall always remain unlocked
Door Closers	Sargent	350/351 Series
Silencers	Rockwood or H.B. Ives	

1.04 FINISH:

A. Hardware generally shall be bronze metal with dull chrome plated finish, US26D, unless otherwise noted. If not noted elsewhere, the following shall apply.
   1. Exterior Butts - Solid Bronze - Dull Chrome Plate
   2. Interior Butts - Steel, Dull Chrome Plate
   3. Door Closers - Sprayed Aluminum

2.05 LOCKSET & LATCHSET DESIGN:

A. Refer to pertinent sections herein.

2.06 OTHER MATERIALS:

A. All other materials not specifically described but required for a complete and proper finish hardware installation shall be as selected by the Contractor subject to the approval of the A/E.

PART 3 - EXECUTION

3.01 DELIVERIES:

A. Stockpile all items sufficiently in advance to ensure their availability and make all necessary deliveries in a timely manner to ensure orderly progress of the total work

3.02 PROTECTION:

A. Finish hardware shall not be installed until all operations or work causing dampness has been completed and thoroughly dried. Knobs, handles and projecting parts shall be wrapped in cloth or soft paper to protect the finish until the project is accepted by the Owner.

3.03 INSPECTION OF INSTALLATION:

A. Upon completion of the installation and as a condition of its acceptance, deliver to the A/E, a report signed by the AHC stating that his/her inspection was made, that all adjustments recommended by him have been completed and that all finish hardware furnished under this section has been installed and is in optimum working condition.

3.04 FINISH HARDWARE SCHEDULE:

A. The Contractor shall be responsible for complete examination of the drawings and shall furnish all hardware required for a complete and proper installation.

END OF SECTION

SECTION 08730

WEATHERSTRIPPING AND SEALS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Provide new weatherstripping and seals at all door and door/frame assemblies where indicated on the drawings.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Products of other manufacturers are also acceptable, providing they comply with the requirements of these specifications.

1.03 SUBMITTALS:

A. Comply with submittal requirements of Section 01300.

B. Submit to Architect, Manufacturer's literature

C. Schedule of doors and weatherstripping or seal on each, as required.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver to job site in original manufacturer's wrapping.

B. Store in area protected from weather damage.

C. Handle only by experienced workmen.

D. Comply also with applicable requirements of Section 01600.

PART 2 – PRODUCTS

2.01 MANUFACTURER:

A. Manufacturer and/or supplier of weatherstripping, seals, and thresholds:

1. Visco Products, Valley Street, Providence, Rhode Island 02909, Telephone Number: (401) 831-1665

2. Pemko; Hager; National Guard Products, or approved equal.

2.02 MATERIALS:

A. Door Sweep: Model # HS051, heavy-duty.

B. Weatherstripping: Model #STK #DS075 or Model #STK #GD085.

C. Saddle Threshold: STK #AT-599 aluminum, length to suite field condition.

PART 3 - EXECUTION

3.01 INSTALLATION OF WEATHERSTRIPPING:

A. Install all materials according to manufacturer's specifications.

B. Apply after doors and frames are painted.

C. Caulk under all weatherstripping before installation.

3.02 CLEAN-UP:

A. Remove all excess material, packaging, etc. from project site.

B. Wipe clean all weatherstripping of excess caulking, dirt, etc.

3.03 ADJUST AND LUBRICATE:

A. Adjust all weaterstripping for proper operation and to form a complete weathertight closure.

B. Lubricate all parts as necessary.

END OF SECTION

SECTION 09910

PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Paint all surfaces as indicated herein and/or as required and as intended for a complete and proper job.

B. Related Work:

1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE:

A. Include on Label of Containers:

1. Manufacturer's name;
2. Type of paint;
3. Manufacturer's stock number;
4. Color;
5. Instructions for reducing, where applicable;
6. Label analysis;
7. Federal Specification number

B. Sampling of Materials:

1. When requested by the A/E, obtain test samples from materials stored at project site or source of supply.

2. Select samples at random from sealed containers.

C. Fungus Control: Organic coating shall show no fungus growth when tested as specified in Federal Test Method Standard 141, Method 6271.1.

D. Field Quality Control:

1. Request review of first finished room, space, or item of each color scheme required by A/E for color, texture, and workmanship.

2. Use first acceptable building component as project standard for each color scheme.

3. For spray application, paint surface not smaller than 100 sq. ft. as project standard.

E. Paint Coordination:

1. Provide finish coats, which are compatible with the prime coats actually used.

2. Review other sections of these specifications as required verifying the prime coats to be used and assuring compatibility of the total coating system for the various substrata.

3. Upon request, furnish information of the characteristics of the specific finish materials to assure that compatible prime coats are used.

4. Provide barrier coats over noncompatible primers, or remove the primer and re-prime as required.

5. Prior to ordering paint materials, notify the Architect in writing of anticipated problems in using the specified coating systems over existing and prime-coatings.

1.03 SUBMITTALS:

A. Color samples;

B. Manufacturer's literature and recommendations, including flame spread ratings, fuel contribution and smoke density factors, including each wood specimen to be used.

C. Prototype:

1. Completely paint a specified portion of one building to serve as a prototype for all painting. Do not proceed further until approved in writing, by the Architect.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver sealed containers with labels legible and intact.

B. Store only acceptable project materials on project site.

C. Store in a suitable location.

D. Restrict storage to paint materials and related equipment.

E. Comply with health and fire regulations.

F. Comply with pertinent other provisions of Section 01640.

1.05 JOB CONDITIONS:

A. Comply with manufacturer's recommendations as to environmental conditions under which coatings and coating systems can be applied.

B. Do not apply finish in areas where dust is being generated.

C. Cover or otherwise protect finished work of other trades and surfaces not being painted concurrently or not to be painted.

D. Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 45°F, unless otherwise permitted by the manufacturer's printed instructions as approved by the A/E.

E. Weather Conditions:

1. Do not apply paint when the relative humidity exceeds 85%; or to damp or wet surfaces, unless otherwise permitted by the manufacturer's printed instructions as approved by the A/E.

1.06 EXTRA STOCK:

A. Upon completion of the work of this section, deliver to the Owner, as extra stock equaling 1 gallon of each color, type, and gloss of paint used in the work, tightly sealing each container, and clearly labeling with contents and location where used.

B. Each container shall be clearly marked as to the type of paint or stain, color name (and number), manufacturer's name, and where used. Said containers shall be clean of excessive paint and have airtight covers.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Except as otherwise specified, materials shall be the products of the following manufacturer:
   1. Sherwin Williams
   2. Glidden Coatings
   3. Pratt & Lambert

B. Materials selected for coating systems for each type surface shall be the product of a single manufacturer, unless otherwise indicated by the A/E.

C. Where products are proposed other than those specified by name and number in the painting schedule, provide submittals and a new painting schedule compiled in the same format used for the painting schedule in this section.

D. Undercoats and Thinners:

   1. Provide undercoat paint produced by the same manufacturer as the finish coat.

   2. Use only the thinners recommended by the paint manufacturer, and use only to the recommended limits.

   3. Insofar as practicable, use undercoat, finish coat, and thinner materials as parts of a unified system of paint finish.

2.02 MATERIALS:

A. Paint shall be first quality of types and brands herein specified. The term "paint" as used herein includes enamels, primers, epoxy, fillers, transparent coatings, paint emulsions, stains, varnishes, sealers, and other coatings, organic or inorganic, whether used as prime, intermediate finish coats. Paint shall be well ground and shall be of such composition that it can be easily broken up with a paddle to smooth consistency.

B. Linseed oil, shellac, turpentine and other materials shall be of the highest quality as approved by the A/E.

C. Tints and all other additives or thinners shall be used only as recommended by the manufacturer of the paint as approved.

2.03 COLORS:

A. Colors of paints, including stain shades, shall be from manufacturer's standard colors. Architect shall select all colors.

B. Refer to 3.08 “B”, Painting Schedule, herein.

2.04 MIXING AND TINTING:

A. Deliver paints and enamels ready-mixed to job site.

B. Accomplish job mixing and job tinting only when acceptable to the A/E.

C. Mix only in mixing pails placed in suitably sized non-ferrous or oxide-resistant metal pans.

D. Use tinting colors recommended by manufacturer for the specific type of finish.

E. Fungicidal agent shall be incorporated into the paint by the manufacturer.

PART 3 - EXECUTION

3.01 INSPECTION:

A. Examine surfaces scheduled to receive paint and finishes for conditions that will adversely affect execution, permanence, or quality of work and which cannot be put into an acceptable condition through preparatory work as included in Article 3.02 - PREPARATION OF SURFACES.

B. Do not proceed with surface preparation or coating application until conditions are suitable for timely and proper completion of this section.

3.02 PREPARATION OF SURFACES:

A. General:

1. Perform preparation and cleaning procedures in strict accordance with the paint manufacturer’s recommendations as approved by the A/E and these Specifications.

2. Remove removable items, which are in place and are not scheduled to receive paint finish, or provide surface-applied protection prior to surface preparation and painting operations.

3. Following completion of painting in each space or area, reinstall the removed items by using workers who are skilled in the necessary trades.

4. Clean each surface to be painted prior to applying paint or surface treatment. ALL SURFACES TO BE PAINTED SHALL BE HAND WASHED WITH NON-SAPONIFYING SOLUTION SUCH AS TSP UNTIL ALL TRACES OF DIRT, OIL, OR GREASE HAVE BEEN REMOVED.

B. Wood Surfaces:

1. Clean soiled surfaced with alcohol wash.

2. Except where rough exterior surface is specified, sand to smooth and even surface, and then vacuum off.

3. Apply specified product to all knots, pitch and resinous sapwood before priming coat is applied.

4. Fill nail holes, cracks, open joints, and other defects with oil based putty after priming coat has dried. Color to match finish color.

5. If a stain is used, provide a small test area for product compatibility. Test for color acceptance. Stains shall be allowed to dry 24 hours before re-coating. A light sanding with very fine sandpaper before application or finish shall be provided.

C. Gypsum Wallboard and Plaster:

1. Fill narrow, shallow cracks and small holes with spackling compound and/or plaster.
2. Allow to dry; sand smooth.
3. Do not raise nap of paper on wallboard.

D. Concrete and Masonry Surfaces: (when applicable)

1. Fill cracks and irregularities with Portland cement grout to provide uniform surface texture.
2. Etch with 5% solution (by weight) of muriatic acid.
3. Fill concrete masonry unit surfaces with block filler.

E. Ferrous Metal Surfaces:

1. Prepare surface in accordance with recommendations and directions of manufacturer with rust-inhibitive primer.
2. Featheredges of sound paint by grinding, if necessary.

F. Galvanized Metal:

1. Clean surface with mineral spirits to remove oily residue.
2. Dry with clean cloth.

3.03 MATERIALS PREPARATION:

A. General:

1. Mix and prepare paint materials in strict accordance with the manufacturer's recommendations as approved by the A/E.

2. When materials are not in use, store in tightly covered containers.

3. Maintain containers used in storage, mixing, and application of paint, in a clean condition, free from foreign materials and residue.

B. Stirring:

1. Stir materials before application, producing a mixture of uniform density.

2. Do not stir into the material any film, which may form on the surface, but remove the film and, if necessary, strain the material before using.

C. Preparation of Surfaces:

1. All surfaces to be painted shall be clean, dry and free of frost.

2. All wood trim shall be scraped, sanded, nailed, countersunk and puttied. All joints shall be caulked.

3.04 PAINT APPLICATION:

A. General:

1. Touch-up shop-applied prime coats which have been damaged, and touch-up bare areas prior to start of finish coats application.

2. Slightly vary the color of succeeding coats.

a.) Do not apply additional coats until the completed coat has been inspected and approved.
b.) Only the inspected and approved coats of paint will be considered in determining the number of coats applied.

B. Do not apply initial coating until moisture content of surface is within limitations recommended by paint manufacturer.

C. Apply paint enamel, stain and varnish with suitable brushes, rollers or spraying equipment.

1. Rate of application shall not exceed that as recommended by paint manufacturer for the surface involved, less 10 percent.

2. Keep brushes, rollers, and spraying equipment clean, dry, free of contaminates and suitable for the finish required.

3. Comply with recommendations of product manufacturer for drying time between succeeding coats.

4. Sand and dust between each coat to remove defects visible from a distance of 5 feet.

5. Finish coats shall be smooth, free of brush marks, streaks, laps, or pile-up of paints, and skipped or missed areas.

6. Deleted.

7. Contractor shall be responsible for following manufacturer's written instructions and warnings for all products specified or substitutes herein.

D. Leave all parts of moldings and ornamental work clean and true to detail with no undue amount of paint in corners and depressions.

E. Make edges of paint adjoining other materials or colors clean and sharp with no overlapping.

F. Refinish whole wall where portion of finish has been damaged or is not acceptable.

G. Back prime <u>all</u> new wood trim.

H. Runs on face are not permitted.

I. Wet Areas:

1. Add an approved fungicide to paints.

2. For oil base paints, use 1% phenolmercuric or 4% tetrachlorophenol.

3. For water emulsion and glue size surfaces, use 4% sodium tetrachlorophenate.

J. For completed work, match the approved samples as to texture, color, and coverage. Remove, refinish, or repaint work not in compliance with the specified requirements.

3.05 PAINT DRYING:

A. Allow sufficient drying time between coats, modifying the period as recommended by the materials manufacturer to suit adverse weather conditions.

B. Consider oil-base and oleo-resinous solvent-type paint as dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and when the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

3.06 APPLICATION EQUIPMENT:

A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of the particular paint, and as approved by the Architect.

B. Prior to use of application equipment, verify that the proposed equipment is actually compatible with the materials to be applied, and that the integrity of the finish will not be jeopardized by the use of the proposed equipment.

C. Brush Applications:

1. Brush out and work the base coats onto the surface in an even film.

2. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, and other surface imperfections will not be acceptable.

D. Spray Application:

1. Except as specifically otherwise approved by the Architect, confine spray application to metal framework and similar surfaces where hand brush work would be inferior.

2. Where spray application is used, apply each coat to provide the hiding equivalent of brush coats.

3. Do not double back with spray equipment to build up film thickness of two coats in one pass.

E. Roller Application:

1. Rollers may be used on large wall and ceiling surfaces. Keep walls free of roller marks.

3.07 CLEANING:

A. Touch up and restore finish where damaged.

B. Remove spilled, splashed, or splattered paint from all surfaces.

C. Do not mar surface finish of item being cleaned.

D. Leave storage space clean and in condition required for equivalent spaces in project

E. Cleaning up process shall proceed with progress of work.

3.08 PAINTING SCHEDULE:

A. Surfaces not to be painted:

1. Items with factory-applied final finish unless otherwise noted.

2. Masonry surfaces - unless otherwise noted.

3. Existing metal trim located over wood trim work such as that at certain window unit locations.

4. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, lead-coated copper, bronze, and similar finished materials unless otherwise directed.

5. Do not paint over required labels or equipment identification performance rating, name, or nomenclature plates.

B. Areas shall be painted as indicated, as directed, and as approved. The kinds of painting materials and number of coats required on various surfaces shall be as indicated in the following schedule. **Certain portions of the Paint Schedule below may not apply to this project.**

NUMBER OF COATS INDICATED HEREINAFTER ARE MINIMUM. COMPLETE COVERAGE IS REQUIRED. PROVIDE ADDITIONAL COATS TO AREAS WHICH DO NOT SHOW COMPLETE COVERAGE WITH SPECIFIED COATS.

1. Existing Plaster and Gypsum Ceilings: (where applicable)
   (2) coats: Pratt & Lambert, #Z1250, Skylight Latex Flat, Soft white.

2. New Plaster and Gypsum Board Ceilings: (where applicable)
   1st coat: Pratt & Lambert, #3001 Latex Primer
   2nd coat: Aristex-Texture Finish (MATCH EXISTING CEILING TEXTURE)
   3rd coat: Pratt & Lambert, #Z1250, Skylight Latex Flat, Soft White

3. New Exterior Gypsum Board: (where applicable)
   1st coat: Pratt & Lambert, Suprime “3” Primer
   (2) coats: Pratt & Lambert, Pro-Hide Exterior Latex Semi-Gloss

4. New Interior Plaster and Gypsum Board: (where applicable)
   1st coat: Pratt & Lambert, #Z3001 Latex Primer
   (2) coats: Pratt & Lambert, #Z9391, Pro-Hide Plus Latex.

5. Existing Interior Plaster and Gypsum Board Walls: (where applicable)
   (2) coats: Pratt & Lambert, #z9391, Pro-Hide Plus Latex.

6. Existing Interior Wood Trim:
   (2) coats: Pratt & Lambert, #Z9691, Pro-Hide Plus Latex Gloss Enamel

7. New Interior Wood Trim:
   (3) coats: Pratt & Lambert, #Z9691, Pro-Hide Plus Latex Gloss Enamel.

8. Interior Spot Priming: (at stains)
   Apply coats as required, Pratt & Lambert, Q-Dee, #E12, primer sealer stain killer.

   NOTE: All surfaces shall be spot primed as necessary so as to prevent stains from "bleeding" through new paint finish.

9. Interior Stain: (wood trim, doors as noted, window sills, etc.)
   Pratt & Lambert, Tonetic Architectural Wood Stain, color shall be selected by the A/E.

10. Exterior Stain: (when applicable & other than concrete stain)
    (2) coats: Benjamin Moore exterior penetrating sealer - color as selected by the Architect.

11. Exterior Wood Trim: (existing - when applicable)
    (2) coats: Pratt & Lambert, # S1130, Effecto Marine Enamel.

12. Exterior Wood Trim:
    (2) coats: Sherwin Williams SuperPaint Exterior Latex Satin, A89 Series
    (NOTE: If tannin bleeding occurs, apply A-100 Exterior Oil Wood Primer, Y24W20 prior to the (2)-coat stain application). Color shall be selected by the Architect.

13. Exterior Metal
    (2) coats: Sherwin Williams Sher-Cryl HPA, B66-300 Series
    (NOTE: Apply Kem Kromik Metal Primer at all rusted or peeling locations prior to the (2)-coat paint application). Color shall be selected by the Architect.

    NOTE: If rust is showing on metal, first coat shall be a rust inhibitive primer after proper preparation has been made.

3.09 OTHER SURFACES:

A. Surfaces for which the type of paint has not been specified shall be painted as specified for surfaces having similar conditions of exposure.

3.10 PAINT FOR OWNER:

A. Each container shall be clearly marked as to the type of paint or stain, color name (and number), manufacturer's name, and where used. Said containers shall be clean of excessive paint and have airtight covers.

END OF SECTION