

CONSTRUCTION SET

PROJECT MANUAL

FOR



**UNIVERSITY OF NC WILMINGTON
5150 LIONFISH DRIVE
WILMINGTON, NC 28403**

**SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR
ROOF REPLACEMENT
5220 SUITE SERVICE LOOP ROAD WILINGTON NC 28403**

**REI PROJECT NO. R25WLM-004
SCO ID#: 24-29059-01A**

03/31/2025

PREPARED BY:



**2708-A EXCHANGE DRIVE
WILMINGTON, NC 28405**

North Carolina Firm License C-1520

SEALS PAGE

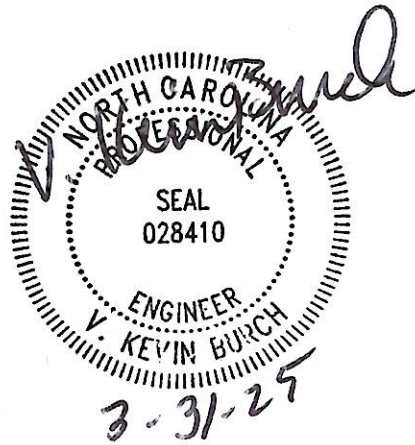
PART 1 GENERAL

1.1 SUMMARY

A. Design Firm for **UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT** with Project Manual dated 03-31-2025:

1. REI Engineers, Inc., 2708-A Exchange Drive, Wilmington, NC 28405
2. North Carolina Firm License C-1520

Professional



END OF SECTION

ADVERTISEMENT FOR BIDS

Sealed proposals will be received until 3:00 PM _____
(Time)

on April 24, 2025, at UNCW Office of Facilities, 5150 Lionfish Drive
(Date)

, Wilmington, NC 28403-5620, for the construction of
(Location)

SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT

at which time and place bids will be opened and read.

Complete plans and specifications for this project can be
obtained from REI Engineers, 2708-A Exchange Drive, Wilmington, NC
(Designer Name and Address)

28405

during normal office hours after April 1, 2025 (Date)

Digital plan sets can be obtained for no charge by request to:
kburch@reiengineers.com

Hard Copy Plan Deposit: Fifty dollars (\$50.00)

A Prebid Meeting will be held April 9, 2025 at 1:00 PM at 5150 Lionfish Drive, Wilmington, NC 28403. Attendance is Mandatory.

The state reserves the unqualified right to reject any and all proposals.

Signed: UNCW

V. Kevin Burch

NOTICE TO BIDDERS

Sealed proposals will be received by UNCW in the office at 5150 Lionfish Drive, Wilmington, NC 28403-5620, up to 3:00 pm April 24, 2025 and immediately thereafter publicly opened and read for the furnishing of labor, material and equipment entering into the construction of:

UNCW Suites, Service and Graham Hewlett Connector-

SCO ID # 24-29059-01A

Roof replacement for University Suites, Service Building and the Graham Hewlett Connector Roof

Bids will be received for single prime general construction. All proposals shall be lump sum.

An open pre-bid meeting will be held for all interested bidders on April 9, 2025 at 5150 Lionfish Drive, Wilmington, NC 28403. The meeting will address project specific questions, issues, bidding procedures and bid forms.

Complete plans, specifications and contract documents will be open for inspection in the offices of the Owner and REI Engineers, Inc. 2708-A Exchange Drive, Wilmington, NC 28403 and in the plan rooms of the Associated General Contractors, Carolinas Branch, in the local North Carolina offices of McGraw-Hill Dodge Corporation, and in the Eastern Regional Office of Reed Construction Data in Norcross, GA and in Minority Plan Rooms in

Designers should verify minority plan room information prior to issuing documents.

Hispanic Contractors Association of the Carolinas (HCAC) in Winston-Salem, Charlotte and Raleigh Areas – 877-227-1680

Projects in the Greenville/Eastern NC areas shall have documents submitted to:

East Coast Digital – Minority Plan Room Provider 703 SE Greenville Blvd, Greenville, NC 27858, 252-758-1616

or may be obtained by those qualified as prime bidders, upon deposit of fifty dollars (\$50.00) in cash or certified check. The full plan deposit will be returned to those bidders provided all documents are returned in good, usable condition within ten (10) days after the bid date.

NOTE: The bidder shall include with the bid proposal the form *Identification of Minority Business Participation* identifying the minority business participation it will use on the project and shall include either *Affidavit A* or *Affidavit B* as applicable. Forms and instructions are included within the Proposal Form in the bid documents. Failure to complete these forms is grounds for rejection of the bid. (GS143-128.2c Effective 1/1/2002.)

All contractors are hereby notified that they must have proper license as required under the state laws governing their respective trades.

General contractors are notified that Chapter 87, Article 1, General Statutes of North Carolina, will be observed in receiving and awarding general contracts. General contractors submitting bids on this project must have license classification for "Building" or "Specialty (Roofing)".

NOTE--SINGLE PRIME CONTRACTS: Under GS 87-1, a contractor that superintends or manages construction of any building, highway, public utility, grading, structure or improvement shall be deemed a "general contractor" and shall be so licensed; therefore, a single prime project that involves other trades will require the single prime contractor to hold a proper General Contractors license. **EXCEPT:** On public buildings being bid single prime, where the total value of the general construction does not exceed 25% of the total construction value, contractors under GS87- Arts 2 and 4 (Plumbing, Mechanical & Electrical) may bid and contract directly with the Owner as the

SINGLE PRIME CONTRACTOR and may subcontract to other properly licensed trades. [GS87-1.1-Rules .0210](#)

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company, insured by the Federal Deposit Insurance Corporation, of an amount equal to not less than five percent (5%) of the proposal, or in lieu thereof a bidder may offer a bid bond of five percent (5%) of the bid executed by a surety company licensed under the laws of North Carolina to execute the contract in accordance with the bid bond. Said deposit shall be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten days after the award or to give satisfactory surety as required by law.

A performance bond and a payment bond will be required for one hundred percent (100%) of the contract price.

Payment will be made based on ninety-five percent (95%) of monthly estimates and final payment made upon completion and acceptance of work.

No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of 30 days.

The owner reserves the right to reject any or all bids and to waive informalities.

Designer:

Owner:

REI Engineers, Inc.
(Name)

University of North Carolina Wilmington
(Agency/Institution)

252-752-1992
(Phone)

TABLE OF CONTENTS

Introductory Information

1. Cover
2. Seals Page
3. Advertisement for Bids
4. Notice to Bidders
5. Table of Contents
6. List of Drawings

Procurement Requirements

7. Instructions to Bidders and General Conditions of the Contract
8. Supplementary General Conditions
9. Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts

Reports

10. Existing Asbestos Information

Technical Specifications

11. Division 1 through 49 Specifications
 - 01 11 00 Summary of Work
 - 01 14 00 Work Restrictions
 - 01 21 00 Allowances
 - 01 22 00 Unit Prices
 - 01 33 00 Submittal Procedures
 - 01 42 00 References
 - 01 50 00 Temporary Facilities and Controls
 - 01 73 29 Cutting and Patching
 - 04 05 24 Masonry Repointing
 - 06 10 00 Rough Carpentry
 - 07 01 50 Preparation for Reroofing
 - 07 22 16 Roof Insulation
 - 07 26 00 Modified Bitumen Vapor Retarder
 - 07 54 00 Thermoplastic Single Ply Roofing
 - 07 62 00 Sheet Metal Flashing and Trim
 - 07 71 19 Manufactured Gravel Stops & Facias
 - 07 72 33 Roof Hatches

Project Forms

12. Form of Proposal
13. Minority Business Forms
 - Identification of HUB Certified/ Minority Business Participation
 - Affidavit A – Listing of Good Faith Efforts
 - Affidavit B – Intent to Perform Contract with Own Workforce
 - Affidavit C – Portion of the Work to be Performed by HUB Certified/Minority Businesses
 - Affidavit D – Good Faith Efforts
14. Form of Bid Bond
15. Form of Construction Contract
 - Form of Performance Bond
 - Form of Payment Bond
 - Sheet for Attaching Power of Attorney
 - Sheet for Attaching Insurance Certificates
 - Approval of the Attorney General
16. State/County Sales/Use Tax Statement and Certification
17. Contractor's Affidavit of Release of Liens

18. Contractor's Affidavit of Payment of Debts and Claims
19. Consent of Surety to Final Payment
20. Roofing Manufacturer's Acknowledgement
21. Contractor's Guarantee
22. Asbestos Free Warranty

END OF TABLE OF CONTENTS

LIST OF DRAWINGS

PART 1 GENERAL

1.1 SUMMARY

- A. The following drawings dated 3/31/25 are included as part of the Contract Documents:
1. G-001 Cover
 2. G-002 Building Code Summary
 3. XR101 Suites & Services Overview
 4. XR102 University Suites Roof Plan
 5. XR103 Services Roof Plan
 6. XR104 Graham Hewlett Connector Roof Plan
 7. XR301 Roof Systems
 8. XR501 Services Details
 9. XR502 Services Details
 10. XR503 Suites Details
 11. XR504 Suites Details
 12. XR505 Graham Hewlett Details

END OF SECTION

**INSTRUCTIONS TO BIDDERS
AND
GENERAL CONDITIONS OF THE CONTRACT**

STANDARD FORM FOR CONSTRUCTION PROJECTS

**UNIVERSITY OF NORTH CAROLINA
SYSTEM OFFICE**

Sixth Edition – June 2021

INSTRUCTIONS TO BIDDERS

For a proposal to be considered it must be in accordance with the following instructions:

1. PROPOSALS

Proposals must be made in strict accordance with the Form of Proposal provided therefor, and all blank spaces for bids, alternates and unit prices applicable to bidders work shall be properly filled in. When requested alternates are not bid, the proposer shall so indicate by the words "No Bid". Any blanks shall also be interpreted as "No Bid". The bidder agrees that bid on Form of Proposal detached from specifications will be considered and will have the same force and effect as if attached thereto. Photocopied or faxed proposals will not be considered. Numbers shall be stated both in writing and in figures for the base bids and alternates. If figures and writing differ, the written number will supersede the figures.

Any modifications to the Form of Proposal (including alternates and/or unit prices) will disqualify the bid and may cause the bid to be rejected.

The bidder shall fill in the Form of Proposal as follows:

- a. If the documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.
- b. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.
- c. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.
- d. If the proposal is made by a joint venture, it shall be executed by each member of the joint venture in the above form for sole owner, partnership or corporation, whichever form is applicable.
- e. All signatures shall be properly witnessed.
- f. If the contractor's license of a bidder is held by a person other than an owner, partner or officer of a firm, then the licensee shall also sign and be a party to the proposal. The title "Licensee" shall appear under his/her signature.

Proposals should be addressed as indicated in the Advertisement for Bids and be delivered enclosed in an opaque sealed envelope, marked "Proposal" and bearing the title of the work, name of the bidder, and the contractor's license number of the bidder. Bidders should clearly mark on the outside of the bid envelope which contract(s) they are bidding.

Bidder shall identify with appropriate attachments to the bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing good faith efforts or an affidavit indicating work under contract will be self-performed, as required by G.S. 143-128.2 (c) and G.S. 143-128.2 (f). Failure to comply with these requirements is grounds for rejection of the bid.

For projects bid in the single-prime alternative, the names and license numbers of major subcontractors shall be listed on the proposal form.

It shall be the specific responsibility of the bidder to deliver his bid to the proper official at the selected place and prior to the announced time for the opening of bids. Later delivery of a bid for any reason, including delivery by any delivery service, shall disqualify the bid.

Unit prices quoted in the proposal shall include overhead and profit and shall be the full compensation for the contractor's cost involved in the work. See General Conditions, Article 19c-1.

2. EXAMINATION OF CONDITIONS

It is understood and mutually agreed that by submitting a bid the bidder acknowledges that he has carefully examined all documents pertaining to the work, the location, accessibility and general character of the site of the work and all existing buildings and structures within and adjacent to the site, and has satisfied himself as to the nature of the work, the condition of existing buildings and structures, the conformation of the ground, the character, quality and quantity of the material to be encountered, the character of the equipment, machinery, plant and any other facilities needed preliminary to and during prosecution of the work, the general and local conditions, the construction hazards, and all other matters, including, but not limited to, the labor situation which can in any way affect the work under the contract, and including all safety measures required by the Occupational Safety and Health Act of 1970 and all rules and regulations issued pursuant thereto. It is further mutually agreed that by submitting a proposal the bidder acknowledges that he has satisfied himself as to the feasibility and meaning of the plans, drawings, specifications and other contract documents for the construction of the work and that he accepts all the terms, conditions and stipulations contained therein; and that he is prepared to work in cooperation with other contractors performing work on the site.

Reference is made to contract documents for the identification of those surveys and investigation reports of subsurface or latent physical conditions at the site or otherwise affecting performance of the work which have been relied upon by the designer in preparing the documents. The owner will make copies of all such surveys and reports available to the bidder upon request.

Each bidder may, at his own expense, make such additional surveys and investigations as he may deem necessary to determine his bid price for the performance of the work. Any on-site investigation shall be done at the convenience of the owner. Any reasonable request for access to the site will be honored by the owner.

3. BULLETINS AND ADDENDA

Any addenda to specifications issued during the time of bidding are to be considered covered in the proposal and in closing a contract they will become a part thereof. It shall be the bidder's responsibility to ascertain prior to bid time the addenda issued and to see that his bid includes any changes thereby required.

Should the bidder find discrepancies in, or omission from, the drawings or documents or should he be in doubt as to their meaning, he shall at once notify the designer who will send written instructions in the form of addenda to all bidders. Notification should be no later than seven (7) days prior to the date set for receipt of bids. Neither the owner nor the designer will be responsible for any oral instructions.

All addenda should be acknowledged by the bidder(s) on the Form of Proposal. However, even if not acknowledged, by submitting a bid, the bidder has certified that he has reviewed all issued addenda and has included all costs associated within the bid.

4. BID SECURITY

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company insured by the Federal Deposit Insurance Corporation, or a bid bond in an amount equal to not less than five percent (5%) of the proposal, said deposit to be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten (10) days after the award or to give satisfactory surety as required by law (G.S. 143-129).

Bid bond shall be conditioned that the surety will, upon demand, forthwith make payment to the obligee upon said bond if the bidder fails to execute the contract. The owner may retain bid securities of any bidder(s) who may have a reasonable chance of award of contract for the full duration of time stated in the Notice to Bidders. Other bid securities may be released sooner, at the discretion of the owner. All bid securities (cash or certified checks) shall be returned to the bidders promptly after award of contracts, and no later than seven (7) days after expiration of the holding period stated in the Notice to Bidders. Standard Form of Bid Bond is included in these specifications and shall be used.

5. RECEIPT OF BIDS

Bids shall be received in strict accordance with requirements of the General Statutes of North Carolina. Bid security shall be required as prescribed by statute. Prior to the closing of the bid, the bidder will be permitted to change or withdraw his bid. Guidelines for opening of public construction bids are available from the owner.

6. OPENING OF BIDS

Upon opening, all bids shall be read aloud. Once bidding is closed, there shall not be any withdrawal of bids by any bidder and no bids may be returned by the designer to any bidder. After the opening of bids, no bid may be withdrawn, except under the provisions of General Statute 143-129.1, for a period of thirty days unless otherwise specified. Should the successful bidder default and fail to execute a contract, the contract may be awarded to the next lowest and responsible bidder. The owner reserves the unqualified right to reject any and all bids. Reasons for rejection may include, but shall not be limited to, the following:

- a. If the Form of Proposal furnished to the bidder is not used or is altered.
- b. If the bidder fails to insert a price for all bid items, alternate and unit prices requested.
- c. If the bidder adds any provisions reserving the right to accept or reject any award.
- d. If there are unauthorized additions or conditional bids, or irregularities of any kind which tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.
- e. If the bidder fails to complete the proposal form where information is requested so the bid may be properly evaluated by the owner.
- f. If the unit prices contained in the bid schedule are unacceptable to the owner.
- g. If the bidder fails to comply with other instructions stated herein.

7. BID EVALUATION

The award of the contract will be made to the lowest responsible bidder as soon as practical. The owner may award on the basis of the base bid and any alternates the owner chooses.

Before awarding a contract, the owner may require the apparent low bidder to qualify himself to be a responsible bidder by furnishing any or all of the following data:

- a. The latest financial statement showing assets and liabilities of the company or other information satisfactory to the owner.
- b. A listing of completed projects of similar size.
- c. Permanent name and address of place of business.
- d. The number of regular employees of the organization and length of time the organization has been in business under present name.
- e. The name and home office address of the surety proposed and the name and address of the responsible local claim agent.
- f. The names of members of the firms who hold appropriate trade licenses, together with license numbers.
- g. If prequalified, contractor information may be reviewed and evaluated comparatively to submitted prequalification package.

Failure or refusal to furnish any of the above information, if requested, shall constitute a basis for disqualification of any bidder.

In determining the lowest responsible, responsive bidder, the owner shall take into consideration the bidder's compliance with the requirements of G.S. 143-128.2(c), the past performance of the bidder on construction contracts for the State with particular concern given to completion times, quality of work, cooperation with other contractors, and cooperation with the designer and owner. Failure of the low bidder to furnish affidavit and/or documentation as required by G.S. 143-128.2(c) shall constitute a basis for disqualification of the bid.

Should the owner adjudge that the apparent low bidder is not the lowest responsible, responsive bidder by virtue of the above information, said apparent low bidder will be so notified and his bid security shall be returned to him.

8. PERFORMANCE BOND

The successful bidder, upon award of contract, shall furnish a performance bond in an amount equal to 100 percent of the contract price. See Article 35, General Conditions.

9. PAYMENT BOND

The successful bidder, upon award of contract, shall furnish a payment bond in an amount equal to 100 percent of the contract price. See Article 35, General Conditions.

10. PAYMENTS

Payments to the successful bidders (contractors) will be made on the basis of monthly estimates of completed work. See Article 31, General Conditions.

11. PRE-BID CONFERENCE

Prior to the date set for receiving bids, the Designer may arrange and conduct a Pre-Bid Conference for all prospective bidders. The purpose of this conference is to review project requirements and to respond to questions from prospective bidders and their subcontractors or material suppliers related to the intent of bid documents. Attendance by prospective bidders shall be as required by the "Notice to Bidders".

12. SUBSTITUTIONS

In accordance with the provisions of G.S. 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until ten (10) days prior to the receipt of bids when submitted to the Designer with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as potential change order.

Submittals for proposed substitutions shall include the following information:

- a. Name, address and telephone number of manufacturer and supplier as appropriate.
- b. Trade name, model or catalog designation.
- c. Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.
- d. Detailed comparison with specified products including performance capabilities, warranties, and test results.
- e. Other pertinent data including data requested by the Designer to confirm product equality.

If a proposed material, product, or equipment substitution is deemed equal by the Designer to those specified, all bidders of record will be notified by Addendum.

GENERAL CONDITIONS OF THE CONTRACT

The use or reproduction of this document or any part thereof is authorized for and limited to use on projects of the University of North Carolina, and is distributed by, through and at the discretion of UNC System Office, Chapel Hill, North Carolina, for that distinct and sole purpose.

TABLE OF CONTENTS

ARTICLE	TITLE	PAGE
1	Definitions.....	8
2	Intent and Execution of Documents.....	10
3	Clarifications and Detail Drawings.....	11
4	Copies of Drawings and Specifications.....	12
5	Shop Drawings, Submittals, Samples, Data.....	12
6	Working Drawings and Specifications at the Job Site.....	13
7	Ownership of Drawings and Specifications.....	13
8	Materials, Equipment, Employees.....	13
9	Royalties, Licenses and Patents.....	14
10	Permits, Inspections, Fees, Regulations.....	14
11	Protection of Work, Property and the Public.....	15
12	Sedimentation Pollution Control Act of 1973.....	16
13	Inspection of the Work.....	16
14	Construction Supervision and Schedule.....	17
15	Separate Contracts and Contractor Relationships.....	21
16	Subcontracts and Subcontractors.....	21
17	Contractor and Subcontractor Relationships.....	22
18	Designer's Status.....	23
19	Changes in the Work.....	24
20	Claims for Extra Cost.....	26
21	Minor Changes in the Work.....	27
22	Uncorrected Faulty Work.....	28
23	Time of Completion, Delays, Extension of Time.....	28
24	Partial Utilization: Beneficial Occupancy.....	29
25	Final Inspection, Acceptance, and Project Closeout.....	29
26	Correction of Work Before Final Payment.....	30
27	Correction of Work After Final Payment.....	31
28	Owner's Right to Do Work.....	31
29	Annulment of Contract.....	31
30	Contractor's Right to Stop Work or Terminate the Contract.....	32
31	Requests for Payments.....	32
32	Certificates of Payment and Final Payment.....	34
33	Payments Withheld.....	35
34	Minimum Insurance Requirements.....	35
35	Performance Bond and Payment Bond.....	37
36	Contractor's Affidavit.....	37
37	Assignments.....	37
38	Use of Premises.....	37
39	Cutting, Patching and Digging.....	37
40	Utilities, Structures, Signs.....	38
41	Cleaning Up.....	40
42	Guarantee.....	40
43	Codes and Standards.....	40
44	Indemnification.....	41
45	Taxes.....	41

46 Equal Opportunity Clause.....	42
47 Employment of the Handicapped	42
48 Asbestos-Containing Materials (ACM)	42
49 Minority Business Participation.....	42
50 Contractor Evaluation.....	42
51 Gifts	43
52 Auditing Access to Persons and Records.....	43
53 North Carolina False Claims Act	43
54 Termination for Convenience.....	44

ARTICLE 1 - DEFINITIONS

- a. The **contract documents** consist of the Notice to Bidders; Instructions to Bidders; General Conditions of the Contract; special conditions if applicable; Supplementary General Conditions; the drawings and specifications, including all bulletins, addenda or other modifications of the drawings and specifications incorporated into the documents prior to their execution; the proposal; the contract; the performance bond; the payment bond; insurance certificates; the approval of the university attorney; and the certificate of the Office of State Budget and Management. All of these items together form the contract.
- b. The **owner** is the State of North Carolina through the agency named in the contract.
- c. The **designer(s)** are those referred to within this contract, or their authorized representatives. The designer(s), as referred to herein, shall mean architect and/or engineer. They will be referred to hereinafter as if each were of the singular number, masculine gender.
- d. The **contractor** as referred to hereinafter, shall be deemed to be either of the several contracting parties called the "Party of the First Part" in either of the several contracts in connection with the total project. Where, in special instances hereinafter, a particular contractor is intended, an adjective precedes the word "contractor," as "general," "heating," etc. For the purposes of a single prime contract, the term Contractor shall be deemed to be the single contracting entity identified as the "Party of the First Part" in the single Construction Contract. Any references or adjectives that name or infer multiple prime contractors shall be interpreted to mean the single prime Contractor.
- e. A **subcontractor** as the term is used herein, shall be understood to be one who has entered into a direct contract with a contractor, and includes one who furnishes materials worked to a special design in accordance with plans and specifications covered by the contract, but does not include one who only sells or furnishes materials not requiring work so described or detailed.
- f. **Written notice** shall be defined as notice in writing delivered in person to the contractor, or to a partner of the firm in the case of a partnership, or to a member of the contracting organization, or to an officer of the organization in the case of a corporation, or sent to the last known business address of the contracting organization by registered mail.
- g. **Work** as used herein as a noun, is intended to include materials, labor and workmanship of the appropriate contractor.
- h. The **project** is the total construction work to be performed under the contract documents by the several contractors.

- i. **Project expediter**, as used herein, is an entity stated in the contract documents, designated to effectively facilitate scheduling and coordination of work activities. See Article 14(f) for responsibilities of a Project Expediter. **For the purposes of a single prime contract, the single prime contractor shall be designated as the Project Expediter.**
- j. **Change order** as used herein, shall mean a written order to the contractor subsequent to the signing of the contract authorizing a change in the contract. The change order shall be signed by the contractor and designer and approved by the owner in that order (Article 19).
- k. **Field Order**, as used herein, shall mean a written approval for the contractor to proceed with the work requested by owner prior to issuance of a formal Change Order. The field order shall be signed by the contractor, designer, and owner .
- l. **Time of completion** as stated in the contract documents, is to be interpreted as consecutive calendar days measured from the date established in the written Notice to Proceed, or such other date as may be established herein (Article 23).
- m. **Liquidated damages** as stated in the contract documents, is an amount reasonably estimated in advance to cover the consequential damages associated with the Owner's economic loss in not being able to use the Project for its intended purposes at the end of the contract's completion date as amended by change order, if any, by reason of failure of the contractor(s) to complete the work within the time specified. Liquidated damages does not include the Owner's extended contract administration costs (including but not limited to additional fees for architectural and engineering services, testing services, inspection services, commissioning services, etc.), such other damages directly resulting from delays caused solely by the contractor, or consequential damages that the Owner identified in the bid documents that may be impacted by any delay caused solely by the Contractor (e.g., if a multi-phased project-subsequent phases, delays in start of other projects that are dependent on the completion of this Project, extension of leases and/or maintenance agreements for other facilities).
- n. **Surety** as used herein, shall mean the bonding company or corporate body which is bound with and for the contractor, and which engages to be responsible for the contractor and his acceptable performance of the work.
- o. **Routine written communications between the Designer and the Contractor** are any communication other than a "request for information" provided in letter, memo, or transmittal format, sent by mail, courier, electronic mail, or facsimile. Such communications cannot be identified as "request for information."
- p. **Clarification or Request for information (RFI)** is a request from the Contractor seeking an interpretation or clarification by the Designer relative to the contract documents. The RFI, which shall be labeled (RFI), shall clearly and concisely set forth the issue or item requiring clarification or interpretation and why the response is needed. The RFI must set forth the Contractor's interpretation or understanding of the contract documents requirements in question, along with reasons for such an understanding.
- q. **Approval** means written or imprinted acknowledgement that materials, equipment or methods of construction are acceptable for use in the work.
- r. **Inspection** shall mean examination or observation of work completed or in progress to determine its compliance with contract documents.

- s. **“Equal to” or “approved equal”** shall mean materials, products, equipment, assemblies, or installation methods considered equal by the bidder in all characteristics (physical, functional, and aesthetic) to those specified in the contract documents. Acceptance of equal is subject to the approval of the Designer and Owner.
- t. **“Substitution” or “substitute”** shall mean materials, products, equipment, assemblies, or installation methods deviating in at least one characteristic (physical, functional, or aesthetic) from those specified, but which in the opinion of the bidder would improve competition and/or enhance the finished installation. Acceptance of substitution is subject to the approval of the Designer and Owner.
- u. **Provide** shall mean furnish and install complete in place, new, clean, operational, and ready for use.
- v. **Indicated and shown** shall mean provide as detailed, or called for, and reasonably implied in the contract documents.
- w. **Special inspector** is one who inspects materials, installation, fabrication, erection or placement of components and connections requiring special expertise to ensure compliance with the approved construction documents and referenced standards.
- x. **Commissioning** is a quality assurance process that verifies and documents that building components and systems operate in accordance with the project design documents.
- y. **Designer Final Inspection** is the inspection performed by the design team to determine the completeness of the project in accordance with approved plans and specifications. This inspection occurs prior to SCO final inspection.
- z. **SCO Final Inspection** is the inspection performed by the State Construction Office to determine the completeness of the project in accordance with North Carolina Building Codes.
- aa. **Beneficial Occupancy** is requested by the owner and is occupancy or partial occupancy of the building or project after all life safety items have been completed as determined by the State Construction Office. Life safety items include but are not limited to fire alarm, sprinkler, egress and exit lighting, fire rated walls, egress paths and security.
- bb. **Final Acceptance** is the date on which the State Construction Office approves the project as complying with the North Carolina Building Codes and the owner accepts the construction as totally complete. This includes certification by the Designer that all punch list items are completed.

ARTICLE 2 - INTENT AND EXECUTION OF DOCUMENTS

- a. The drawings and specifications are complementary, one to the other. That which is shown on the drawings or called for in the specifications shall be as binding as if it were both called for and shown. The intent of the drawings and specifications is to establish the scope of all labor, materials, transportation, equipment, and any and all other things necessary to provide a bid for a complete job. In case of discrepancy or disagreement in the contract documents, the order of precedence shall be: Form of Contract, specifications, large-scale detail drawings, small-scale drawings.

- b. The wording of the specifications shall be interpreted in accordance with common usage of the language except that words having a commonly used technical or trade meaning shall be so interpreted in preference to other meanings.
- c. The contractor shall execute each copy of the proposal, contract, performance bond and payment bond as follows:
 - 1. If the documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.
 - 2. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.
 - 3. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.
 - 4. If the documents are made by a joint venture, they shall be executed by each member of the joint venture in the above form for sole owner, partnership or corporation, whichever form is applicable to each particular member.
 - 5. All signatures shall be properly witnessed.
 - 6. If the contractor's license is held by a person other than an owner, partner or officer of a firm, then the licensee shall also sign and be a party to the contract. The title "Licensee" shall appear under his/her signature.
 - 7. The bonds shall be executed by an attorney-in-fact. There shall be attached to each copy of the bond a certified copy of power of attorney properly executed and dated.
 - 8. Each copy of the bonds shall be countersigned by an authorized individual agent of the bonding company licensed to do business in North Carolina. The title "Licensed Resident Agent" shall appear after the signature.
 - 9. The seal of the bonding company shall be impressed on each signature page of the bonds.
 - 10. The contractor's signature on the performance bond and the payment bond shall correspond with that on the contract. The date of the performance and payment bond shall not be prior to the date of the contract.

ARTICLE 3 - CLARIFICATIONS AND DETAIL DRAWINGS

- a. In such cases where the nature of the work requires clarification by the designer, such clarification shall be furnished by the designer with reasonable promptness by means of written instructions or detail drawings, or both. Clarifications and drawings shall be consistent with the intent of contract documents, and shall become a part thereof.
- b. The contractor(s) and the designer shall prepare, if deemed necessary, a schedule fixing dates upon which foreseeable clarifications will be required. The schedule will be subject to addition or change in accordance with progress of the work. The designer shall furnish

drawings or clarifications in accordance with that schedule. The contractor shall not proceed with the work without such detail drawings and/or written clarifications.

ARTICLE 4 - COPIES OF DRAWINGS AND SPECIFICATIONS

The designer or owner shall furnish free of charge to the contractors electronic copies of plans and specifications. If requested by the contractor, paper copies of plans and specifications shall be furnished free of charge as follows:

- a. General contractor - Up to twelve (12) sets of general contractor drawings and specifications, up to six (6) sets of which shall include drawings and specifications of all other contracts, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.
- b. Each other contractor - Up to six (6) sets of the appropriate drawings and specifications, up to three (3) sets of which shall include drawings and specifications of all other contracts, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.
- c. Additional sets shall be furnished at cost, including mailing, to the contractor upon request by the contractor. This cost shall be stated in the bidding documents.
- d. For the purposes of a single-prime contract, the contractor shall receive up to 30 sets of drawings and specifications, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

ARTICLE 5 - SHOP DRAWINGS, SUBMITTALS, SAMPLES, DATA

- a. Within 15 consecutive calendar days after the notice to proceed, each prime contractor shall submit a schedule for submission of all shop drawings, product data, samples, and similar submittals through the Project Expediter to the Designer. This schedule shall indicate the items, relevant specification sections, other related submittal data, and the date when these items will be furnished to the designer.
- b. The Contractor(s) shall review, approve and submit to the Designer all Shop Drawings, Coordination Drawings, Product Data, Samples, Color Charts, and similar submittal data required or reasonably implied by the Contract Documents. Required Submittals shall bear the Contractor's stamp of approval, any exceptions to the Contract Documents shall be noted on the submittals, and copies of all submittals shall be of sufficient quantity for the Designer to retain up to three (3) copies of each submittal for his own use plus additional copies as may be required by the Contractor. Submittals shall be presented to the Designer in accordance with the schedule submitted in paragraph (a) so as to cause no delay in the activities of the Owner or of separate Contractors.
- c. The Designer shall review required submittals promptly, noting desired corrections if any, and retaining two (2) copies (one for the Designer, one for the owner) for his use. The remaining copies of each submittal shall be returned to the Contractor not later than twenty (20) days from the date of receipt by the Designer, for the Contractor's use or for corrections and resubmittal as noted by the Designer. When resubmittals are required, the submittal procedure shall be the same as for the original submittals.

- d. Approval of shop drawings/submittals by the Designer shall not be construed as relieving the Contractor from responsibility for compliance with the design or terms of the contract documents nor from responsibility of errors of any sort in the shop drawings, unless such lack of compliance or errors first have been called in writing to the attention of the Designer by the Contractor.

ARTICLE 6 - WORKING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE

- a. The contractor shall maintain, in readable condition at his job office, one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the designer, his authorized representative, the owner or State Construction Office..
- b. The contractor shall maintain at the job office, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on project drawings by the contractor and submitted to the designer upon project completion and no later than 30 days after final acceptance of the project.
- c. The contractor shall maintain at the job office a record of all required tests that have been performed, clearly indicating the scope of work inspected and the date of approval or rejection.

ARTICLE 7 - OWNERSHIP OF DRAWINGS AND SPECIFICATIONS

All drawings and specifications are instruments of service and remain the property of the State of North Carolina. The use of these instruments on work other than this contract without permission of the owner is prohibited. All copies of drawings and specifications other than contract copies shall be returned to the owner upon request after completion of the work.

ARTICLE 8 - MATERIALS, EQUIPMENT, EMPLOYEES

- a. The contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of his work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.
- b. All materials shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times be of a grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.
- c. Upon notice, the contractor shall furnish evidence as to quality of materials.
- d. Products are generally specified by ASTM or other reference standard and/or by manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer

combination listed. However, the contractor shall be aware that the cited examples are used only to denote the quality standard of product desired and that they do not restrict bidders to a specific brand, make, manufacturer or specific name; that they are used only to set forth and convey to bidders the general style, type, character and quality of product desired; and that equivalent products will be acceptable. Request for substitution of materials, items or equipment shall be submitted to the designer for approval or disapproval; such approval or disapproval shall be made by the designer prior to the opening of bids. Alternate materials may be requested after the award if it can clearly be demonstrated that it is an added benefit to the owner and the designer and owner approve.

- e The designer is the judge of equality for proposed substitution of products, materials or equipment.
- f. If at any time during the construction and completion of the work covered by these contract documents, the language, conduct, or attire of any workman of the various crafts be adjudged a nuisance by the owner or designer, or if any workman be considered detrimental to the work, the contractor shall order such parties removed immediately from grounds.

ARTICLE 9 - ROYALTIES, LICENSES AND PATENTS

It is the intention of the contract documents that the work covered herein will not constitute in any way infringement of any patent whatsoever unless the fact of such patent is clearly evidenced herein. The contractor shall protect and save harmless the owner against suit on account of alleged or actual infringement. The contractor shall pay all royalties and/or license fees required on account of patented articles or processes, whether the patent rights are evidenced hereinafter.

ARTICLE 10 - PERMITS, INSPECTIONS, FEES, REGULATIONS

- a. The contractor shall give all notices and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the designer in writing. See Instructions to Bidders, Paragraph 3, Bulletins and Addenda. Any necessary changes required after contract award shall be made by change order in accordance with Article 19. If the contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the designer, he shall bear all cost arising therefrom. Additional requirements implemented after bidding will be subject to equitable negotiations.
- b. All work under this contract shall conform to the North Carolina State Building Code and other state, local and national codes as are applicable. The cost of all required inspections and permits shall be the responsibility of the contractor and included within the bid proposal. All water taps, meter barrels, vaults and impact fees shall be paid by the contractor unless otherwise noted.
- c. Projects constructed by the State of North Carolina or by any agency or institution of the state are not subject to inspection by any county or municipal authorities and are not subject to county or municipal building codes. The contractor shall, however, cooperate with the county or municipal authorities by obtaining building permits. Permits shall be obtained at no cost.

- d. Projects involving local funding may be subject also to county and municipal building codes and inspection by local authorities. The Contractor shall pay the cost of these permits and inspections as noted in the specifications.

ARTICLE 11 - PROTECTION OF WORK, PROPERTY AND THE PUBLIC

- a. The contractors shall be jointly responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the owner or designer, and by laws or ordinances governing such conditions. They shall be responsible for any damage to the owner's property, or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. They shall be responsible for and pay for any damages caused to the owner. All contractors shall have access to the project at all times.
- b. The contractor shall provide cover and protect all portions of the structure when the work is not in progress, provide and set all temporary roofs, covers for doorways, sash and windows, and all other materials necessary to protect all the work on the building, whether set by him, or any of the subcontractors. Any work damaged through the lack of proper protection or from any other cause, shall be repaired or replaced without extra cost to the owner.
- c. No fires of any kind will be allowed inside or around the operations during the course of construction without special permission from the designer and owner.
- d. The contractor shall protect all trees and shrubs designated to remain in the vicinity of the operations by building substantial boxes around same. He shall barricade all walks, roads, etc., as directed by the designer to keep the public away from the construction. All trenches, excavations or other hazards in the vicinity of the work shall be well barricaded and properly lighted at night.
- e. The contractor shall provide all necessary safety measures for the protection of all persons on the job, including the requirements of the A.G.C. *Accident Prevention Manual in Construction*, as amended, and shall fully comply with all state laws or regulations and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.
- f. The contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974, *Federal Register*), and revisions thereto as adopted by General Statutes of North Carolina 95-126 through 155.
- g. The contractor shall designate a responsible member of his organization as safety officer/inspector, to inspect the project site for unsafe health and safety hazards, to report these hazards to the contractor for correction, and whose duties also include accident prevention on the project, and to provide other safety and health measures on the project site as required by the terms and conditions of the contract. The name of the safety inspector shall be made known to the designer and owner at the time of the preconstruction conference and in all cases prior to any work starting on the project.

- h. In the event of emergency affecting the safety of life, the protection of work, or the safety of adjoining properties, the contractor is hereby authorized to act at his own discretion, without further authorization from anyone, to prevent such threatened injury or damage. Any compensation claimed by the contractor on account of such action shall be determined as provided for under Article 19(b).
- i. Any and all costs associated with correction of damage caused to adjacent properties of the construction site or staging area shall be borne by the contractor. These costs shall include but not be limited to correction of damage caused by flooding, mud, sand, stone, debris, and discharging of waste products.

ARTICLE 12 - SEDIMENTATION POLLUTION CONTROL ACT OF 1973

- a. Any land-disturbing activity performed by the contractor(s) in connection with the project shall comply with all erosion control measures set forth in the contract documents and any additional measures which may be required in order to ensure that the project is in full compliance with the Sedimentation Pollution Control Act of 1973, as implemented by Title 15, North Carolina Administrative Code, Chapter 4, Sedimentation Control, Subchapters 4A, 4B and 4C, as amended (15 N.C.A.C. 4A, 4B and 4C).
- b. Upon receipt of notice that a land-disturbing activity is in violation of said act, the contractor(s) shall be responsible for ensuring that all steps or actions necessary to bring the project in compliance with said act are promptly taken.
- c. The contractor(s) shall be responsible for defending any legal actions instituted pursuant to N.C.G.S. 113A-64 against any party or persons described in this article.
- d. To the fullest extent permitted by law, the contractor(s) shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, civil penalties, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from the performance of work or failure of performance of work, provided that any such claim, damage, civil penalty, loss or expense is attributable to a violation of the Sedimentation Pollution Control Act. Such obligation shall not be construed to negate, abridge or otherwise reduced any other right or obligation of indemnity which would otherwise exist as to any party or persons described in this article.

ARTICLE 13 - INSPECTION OF THE WORK

- a. It is a condition of this contract that the work shall be subject to inspection during normal working hours and during any time work is in preparation and progress by the designer, designated official representatives of the owner, State Construction Office, and those persons required by state law to test special work for official approval. The contractor shall therefore provide safe access to the work at all times for such inspections.
- b. All instructions to the contractor will be made only by or through the designer or his designated project representative. Observations made by official representatives of the owner shall be conveyed to the designer for review and coordination prior to issuance to the contractor.
- c. All work shall be inspected by the designer, special inspector and/or State Construction Office prior to being covered by the contractor. Contractor shall give a minimum notice of two weeks unless otherwise agreed to by all parties. If inspection fails, after the first

re-inspection all costs associated with additional inspections shall be borne by the contractor.

- d. Where special inspection or testing is required by virtue of any state laws, instructions of the designer, specifications or codes, the contractor shall give adequate notice to the designer of the time set for such inspection or test, if the inspection or test will be conducted by a party other than the designer. Such special tests or inspections will be made in the presence of the designer, or his authorized representative, and it shall be the contractor's responsibility to serve ample notice of such tests.
- e. All laboratory tests shall be paid by the owner unless provided otherwise in the contract documents except the general contractor shall pay for laboratory tests to establish design mix for concrete, and for additional tests to prove compliance with contract documents where materials have tested deficient except when the testing laboratory did not follow the appropriate ASTM testing procedures.
- f. Should any work be covered up or concealed prior to inspection and approval by the designer, special inspector, and/or State Construction Office such work shall be uncovered or exposed for inspection, if so requested by the designer in writing. Inspection of the work will be made upon notice from the contractor. All cost involved in uncovering, repairing, replacing, recovering and restoring to design condition, the work that has been covered or concealed will be paid by the contractor involved.

ARTICLE 14 - CONSTRUCTION SUPERVISION AND SCHEDULE

- a. Throughout the progress of the work, each contractor shall keep at the job site a competent superintendent and supervisory staff satisfactory to the designer and the owner. The superintendent and supervisory staff shall not be changed without the consent of the designer and owner unless said superintendent ceases to be employed by the contractor or ceases to be competent as determined by the contractor, designer and owner. The superintendent and other staff designated by the contractor in writing shall have authority to act on behalf of the contractor, and instructions, directions or notices given to him shall be as binding as if given to the contractor. However, directions, instructions and notices shall be confirmed in writing.
- b. The contractor shall examine and study the drawings and specifications and fully understand the project design, and shall provide constant and efficient supervision to the work. Should he discover any discrepancies of any sort in the drawings or specifications, he shall report them to the designer without delay. He will not be held responsible for discrepancies in the drawings and/or specifications, but shall be held responsible to report them should they become known to him.
- c. All contractors shall be required to cooperate and consult with each other during the construction of this project. Prior to installation of work, all contractors shall jointly prepare coordination drawings, showing locations of various ductworks, piping, motors, pumps, and other mechanical or electrical equipment, in relation to the structure, walls and ceilings. These drawings shall be submitted to the designer through the Project Expediter for information only. Each contractor shall lay out and execute his work to cause the least delay to other contractors. Each contractor shall be financially responsible for any damage to other contractor's work and for undue delay caused to other contractors on the project.
- d. The contractor is required to attend job site progress conferences as called by the designer. The contractor shall be represented at these job progress conferences by both

home office and project personnel. These representatives shall have authority to act on behalf of the contractor. These meetings shall be open to subcontractors, material suppliers and any others who can contribute toward maintaining required job progress. It shall be the principal purpose of these meetings, or conferences, to effect coordination, cooperation and assistance in every practical way toward the end of maintaining progress of the project on schedule and to complete the project within the specified contract time. Each contractor shall be prepared to assess progress of the work as required in his particular contract and to recommend remedial measures for correction of progress as may be appropriate. The designer or his authorized representative shall be the coordinator of the conferences and shall preside as chairman. The contractor shall turn over a copy of his daily reports to the designer and owner at the job site project conference. The owner will determine the daily report format.

- e. The contractor(s) shall employ an engineer or a land surveyor licensed in the State of North Carolina to lay out the work and to establish a bench mark in a location where same will not be disturbed and where direct instruments sights may be taken.
- f. The designer shall designate a project expediter on projects involving two or more prime contracts. The project expediter shall be designated in the Supplementary General Conditions. The Project Expediter shall have at a minimum the following responsibilities:
 - 1. Prepare the project construction schedule and shall allow all prime contractors (multi-prime contract) and subcontractors (single-prime contract) performing general, plumbing, HVAC, and electrical work equal input into the preparation of the initial construction schedule.
 - 2. Maintain a project progress schedule for all contractors.
 - 3. Give adequate notice to all contractors to ensure efficient continuity of all phases of the work.
 - 4. Notify the designer of any changes in the project schedule.
 - 5. Recommend to the owner whether payment to a contractor shall be approved.
- g. It shall be the responsibility of the Project Expediter to cooperate with and obtain from several prime contractors and subcontractors on the job, their respective work activities and integrate these activities into a project construction schedule in form of a detailed bar chart or Critical Path Method (CPM) schedule. Each prime contractor shall provide work activities within fourteen (14) days of request by the Project Expediter. A "work activity", for scheduling purposes, shall be any component or contractual requirement of the project requiring at least one (1) day, but not more than fourteen (14) days, to complete or fulfill. The project construction schedule shall graphically show all salient features of the work required to construct the project from start to finish and within the allotted time established in the contract. The time (in days) between the contractor's early completion and contractual completion dates is part of the project total float time; and shall be used as such, unless amended by a change order. On a multi-prime project, each prime contractor shall review the proposed construction schedule and approve same in writing. The Project Expediter shall submit the proposed construction schedule to the designer for comments. The complete Project construction schedule shall be of the type set forth in the Supplementary General Condition or subparagraph (1) or (2) below, as appropriate:

1. For a project with total contracts of \$500,000 or less, a bar chart schedule will satisfy the above requirement. The schedule shall indicate the estimated starting and completion dates for each major element of the work.
2. For a project with total contracts over \$500,000, a Critical Path Method (CPM) schedule shall be utilized to control the planning and scheduling of the Work. The CPM schedule shall be the responsibility of the Project Expediter and shall be paid for by the Project Expediter.

Bar Chart Schedule, Where a bar chart schedule is required, it shall be time-scaled in weekly increments, shall indicate the estimated starting and completion dates for each major element of the work by trade and by area, level, or zone, and shall schedule dates for all salient features, including but not limited to the placing of orders for materials, submission of shop drawings and other Submittals for approval, approval of shop drawings by designers, the manufacture and delivery of material, the testing and the installation of materials, supplies and equipment, and all Work activities to be performed by the Contractor. The Contractor shall allow sufficient time in his schedule for all commissioning, required inspections and completion of final punch list(s). Each Work activity will be assigned a time estimate by the Contractor. One day shall be the smallest time unit used.

CPM Schedule, Where a CPM schedule is required, it shall be in time-scaled precedence format using the Project Expediter's logic and time estimates. The CPM schedule shall be drawn or plotted with activities grouped or zoned by Work area or subcontract as opposed to a random (or scattered) format. The CPM schedule shall be time-scaled on a weekly basis and shall be drawn or plotted at a level of detail and logic which will schedule all salient features of the work to be performed by the Contractor. The Contractor shall allow sufficient time in his schedule for all commissioning, required inspections and completion of final punch list(s). Each Work activity will be assigned a time estimate by the Contractor. One day shall be the smallest time unit used.

The CPM schedule will identify and describe each activity, state the duration of each activity, the calendar dates for the early and late start and the early and late finish of each activity, and clearly highlight all activities on the critical path. "Total float" and "free float" shall be indicated for all activities. Float time shall not be considered for the exclusive use or benefit of either the Owner or the Contractor, but must be allocated in the best interest of completing the Work within the Contract time. Extensions to the Contract time, when granted by Change Order, will be granted only when equitable time adjustment exceeds the Total Float in the activity or path of activities affected by the change.

Early Completion of Project, The Contractor may attempt to complete the project prior to the Contract Completion Date. However, such planned early completion shall be for the Contractor's convenience only and shall not create any additional rights of the Contractor or obligations of the Owner under this Contract, nor shall it change the Time for Completion or the Contract Completion Date. The Contractor shall not be required to pay liquidated damages to the Owner because of its failure to complete by its planned earlier date. Likewise, the Owner shall not pay the Contractor any additional compensation for early completion nor will the Owner owe the Contractor any compensation should the Owner, its officers, employees, or agents cause the Contractor not to complete earlier than the date required by the Contract Documents.

- h. The proposed project construction schedule shall be presented to the designer no later than fifteen (15) days after written notice to proceed. No application for payment will be processed until this schedule is accepted by the designer and owner.
- i. The approved project construction schedule shall be distributed to all contractors and displayed at the job site by the Project Expediter.
- j. The several contractors shall be responsible for their work activities and shall notify the project expediter of any necessary changes or adjustments to their work. The project Expediter shall maintain the project construction schedule, making biweekly adjustments, updates, corrections, etc., that are necessary to finish the project within the Contract time, keeping all contractors and the designer fully informed. Copy of a bar chart schedule annotated to show the current progress shall be submitted by the Contractor(s) to the designer, along with monthly request for payment. For project requiring CPM schedule, the Contractor shall submit a biweekly report of the status of all activities. The bar chart schedule or biweekly status report shall show the actual Work completed to date in comparison with the original Work scheduled for all activities. If any activities of the work of several contractors are behind schedule, the contractor must indicate in writing, what measures will be taken to bring each such activity back on schedule and to ensure that the Contract Completion Date is not exceeded. A plan of action and recovery schedule shall be developed and submitted to the designer by the Project Expediter, when (1) the contractor's report indicates delays, that are in the opinion of the designer or the owner, of sufficient magnitude that the contractor's ability to complete the work by the scheduled completion is brought into question; (2) the updated construction schedule is thirty (30) days behind the planned or baseline schedule and no legitimate time extensions, as determined by the designer, are in process; and (3) the contractor desires to make changes in the logic (sequencing of work) or the planned duration of future activities of the CPM schedule which, in the opinion of the designer or the owner, are of a major nature. The plan of action, when required shall be submitted to the Owner for review within two (2) business days of the Contractor receiving the Owner's written demand. The recovery schedule, when required, shall be submitted to the Owner within five (5) calendar days of the Contractor's receiving the Owner's written demand. Failure to provide an updated construction schedule or a recovery schedule may be grounds for rejection of payment applications or withholding of funds as set forth in Article 33.
- k. The project expediter shall notify each contractor of such events or time frames that are critical to the progress of the job. Such notice shall be timely and reasonable. Should the progress be delayed due to the work of any of the several contractors, it shall be the duty of the project expediter to immediately notify the contractor(s) responsible for such delay, the designer, the owner and other prime contractors. The designer shall determine the contractor(s) who caused the delays notify the bonding company of the responsible contractor(s) of the delays and shall make a recommendation to the owner regarding further action.
- l. Designation as project expediter entails an additional project control responsibility and does not alter in any way the responsibility of the contractor so designated, nor the responsibility of the other contractors involved in the project. The project expediter's superintendent(s) shall be in attendance at the project site at all times when work is in progress unless conditions are beyond the control of the contractor or until termination of the contract in accordance with the contract documents. It is understood that such superintendent shall be acceptable to the owner and designer and shall be the one who will be continued in that capacity for the duration of the project unless he ceases to be on the contractor's payroll or the owner otherwise agrees. The time commitment of the project superintendent to the project shall be such as to insure satisfactory construction

progress & coordination as determined by the project designer and owner and may be as stipulated in the Supplementary General Conditions.

ARTICLE 15 - SEPARATE CONTRACTS AND CONTRACTOR RELATIONSHIPS

- a. Public contracts may be delivered by the following construction delivery methods: single-prime, dual (single-prime and separate-prime), construction manager at risk, and alternative contracting method as approved by the State Building Commission. The owner reserves the right to prepare separate specifications, receive separate bids, and award separate contracts for such other major items of work as may be in the best interest of the State. For the purposes of a single prime contract, refer to Article 1 – Definitions.
- b. All contractors shall cooperate with each other in the execution of their work, and shall plan their work in such manner as to avoid conflicting schedules or delay of the work. See Article 14, Construction Supervision.
- c. If any part of contractor's work depends upon the work of another contractor, defects which may affect that work shall be reported to the designer in order that prompt inspection may be made and the defects corrected. Commencement of work by a contractor where such condition exists will constitute acceptance of the other contractor's work as being satisfactory in all respects to receive the work commenced, except as to defects which may later develop. The designer shall be the judge as to the quality of work and shall settle all disputes on the matter between contractors.
- d. Any mechanical or electrical work such as sleeves, inserts, chases, openings, penetrations, etc., which is located in the work of the general contractor shall be built in by the general contractor. The respective mechanical and electrical contractors shall set all sleeves, inserts and other devices that are to be incorporated into the structure in cooperation and under the supervision of the general contractor. The responsibility for the exact location of such items shall be that of the mechanical and/or electrical contractor.
- e. The designer and the owner shall have access to the work whenever it is in preparation and progress during normal working hours. The contractor shall provide facilities for such access so the designer may perform his functions under the contract documents.
- f. Should a contractor cause damage to the work or property of another contractor, he shall be directly responsible, and upon notice, shall promptly settle the claim or otherwise resolve the dispute.

ARTICLE 16 - SUBCONTRACTS AND SUBCONTRACTORS

- a. Within thirty (30) days after award of the contract, the contractor shall submit to the designer and to the owner a list giving the names and addresses of subcontractors and equipment and material suppliers he proposes to use, together with the scope of their respective parts of the work. Should any subcontractor be disapproved by the designer, the designer shall submit his reasons for disapproval in writing to the owner for the owner's consideration with a copy to the contractor. If the owner concurs with the designer's recommendation, the contractor shall submit a substitute for approval. The designer shall act promptly in the approval of subcontractors, and when approval of the list is given, no changes of subcontractors will be permitted except for cause or reason considered justifiable by the designer.

- b. The designer will furnish to any subcontractor, upon request, evidence regarding amounts of money paid to the contractor on account of the subcontractor's work.
- c. The contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or of any employee of either. The contractor agrees that no contractual relationship exists between the subcontractor and the owner in regard to the contract, and that the subcontractor acts on this work as an agent or employee of the contractor.
- d. The owner reserves the right to limit the amount of portions of work to be subcontracted as hereinafter specified.

ARTICLE 17 - CONTRACTOR AND SUBCONTRACTOR RELATIONSHIPS

The contractor agrees that the terms of these contract documents shall apply equally to each subcontractor as to the contractor, and the contractor agrees to take such action as may be necessary to bind each subcontractor to these terms. The contractor further agrees to conform to the Code of Ethical Conduct as adopted by the Associated General Contractors of America, Inc., with respect to contractor-subcontractor relationships, and that payments to subcontractors shall be made in accordance with the provisions of G.S. 143-134.1 titled "Interest on final payments due to prime contractors: payments to subcontractors."

- a. On all public construction contracts which are let by a board or governing body of the state government or any political subdivision thereof, except contracts let by the Department of Transportation pursuant to G.S. 136-28.1, the balance due prime contractors shall be paid in full within 45 days after respective prime contracts of the project have been accepted by the owner, certified by the architect, engineer or designer to be completed in accordance with terms of the plans and specifications, or occupied by the owner and used for the purpose for which the project was constructed, whichever occurs first. Provided, however, that whenever the architect or consulting engineer in charge of the project determines that delay in completion of the project in accordance with terms of the plans and specifications is the fault of the contractor, the project may be occupied and used for the purposes for which it was constructed without payment of any interest on amounts withheld past the 45 day limit. No payment shall be delayed because of the failure of another prime contractor on such project to complete his contract. Should final payment to any prime contractor beyond the date such contracts have been certified to be completed by the designer or architect, accepted by the owner, or occupied by the owner and used for the purposes for which the project was constructed, be delayed by more than 45 days, said prime contractor shall be paid interest, beginning on the 46th day, at the rate of one percent (1%) per month or fraction thereof unless a lower rate is agreed upon on such unpaid balance as may be due. In addition to the above final payment provisions, periodic payments due a prime contractor during construction shall be paid in accordance with the payment provisions of the contract documents or said prime contractor shall be paid interest on any such unpaid amount at the rate stipulated above for delayed final payments. Such interest shall begin on the date the payment is due and continue until the date on which payment is made. Such due date may be established by the terms of the contract. Funds for payment of such interest on state-owned projects shall be obtained from the current budget of the owning department, institution or agency. Where a conditional acceptance of a contract exists, and where the owner is retaining a reasonable sum pending correction of such conditions, interest on such reasonable sum shall not apply.
- b. Within seven days of receipt by the prime contractor of each periodic or final payment, the prime contractor shall pay the subcontractor based on work completed or service

provided under the subcontract. Should any periodic or final payment to the subcontractor be delayed by more than seven days after receipt of periodic or final payment by the prime contractor, the prime contractor shall pay the subcontractor interest, beginning on the eighth day, at the rate of one percent (1%) per month or fraction thereof on such unpaid balance as may be due.

- c. The percentage of retainage on payments made by the prime contractor to the subcontractor shall not exceed the percentage of retainage on payments made by the owner to the prime contractor. Any percentage of retainage on payments made by the prime contractor to the subcontractor that exceeds the percentage of retainage on payments made by the owner to the prime contractor shall be subject to interest to be paid by the prime contractor to the subcontractor at the rate of one percent (1%) per month or fraction thereof.
- d. Nothing in this section shall prevent the prime contractor at the time of application and certification to the owner from withholding application and certification to the owner for payment to the subcontractor for unsatisfactory job progress; defective construction not remedied; disputed work; third-party claims filed or reasonable evidence that claim will be filed; failure of subcontractor to make timely payments for labor, equipment and materials; damage to prime contractor or another subcontractor; reasonable evidence that subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed the initial percentage retained by owner.

ARTICLE 18 - DESIGNER'S STATUS

- a. The designer shall provide general administration of the performance of construction contracts, including liaison and necessary inspection of the work to ensure compliance with plans and specifications. He is the agent of the owner only for the purpose of constructing this work and to the extent stipulated in the contract documents. He has authority to direct work to be performed, to stop work, to order work removed, or to order corrections of faulty work where any such action by the designer may be necessary to assure successful completion of the work.
- b. The designer is the impartial interpreter of the contract documents, and, as such, he shall exercise his powers under the contract to enforce faithful performance by both the owner and the contractor, taking sides with neither.
- c. Should the designer cease to be employed on the work for any reason whatsoever, then the owner shall employ a competent replacement who shall assume the status of the former designer.
- d. The designer and his consultants will make inspections of the project. They will inspect the progress, the quality and the quantity of the work.
- e. The designer and the owner shall have access to the work whenever it is in preparation and progress during normal working hours. The contractor shall provide facilities for such access so the designer and owner may perform their functions under the contract documents.
- f. Based on the designer's inspections and evaluations of the project, the designer shall issue interpretations, directives and decisions as may be necessary to administer the project. His decisions relating to artistic effect and technical matters shall be final, provided such decisions are within the limitations of the contract.

ARTICLE 19 - CHANGES IN THE WORK

- a. The owner may have changes made in the work covered by the contract. These changes will not invalidate and will not relieve or release the contractor from any guarantee given by him pertinent to the contract provisions. These changes will not affect the validity of the guarantee bond and will not relieve the surety or sureties of said bond. All extra work shall be executed under conditions of the original contract.
- b. Except in an emergency endangering life or property, no change shall be made by the contractor except upon receipt of an approved change order or written field order from the designer, countersigned by the owner. No claim for adjustments of the contract price shall be valid unless this procedure is followed.
A field order, transmitted by fax or hand-delivered, may be used where the change involved impacts the critical path of the work. A formal change order shall be issued as expeditiously as possible.

In the event of emergency endangering life or property, the contractor may be directed to proceed on a time and material basis whereupon the contractor shall proceed and keep accurately on such form as specified by the designer or owner, a correct account of costs together with all proper invoices, payrolls and supporting data. Upon completion of the work the change order will be prepared as outlined below under either c.1 or c.2 or both.

- c. In determining the values of changes, either additive or deductive, contractors are restricted to the use of the following methods:
 1. Where the extra work involved is covered by unit prices quoted in the proposal, or subsequently agreed to by the contractor, designer and owner, the value of the change shall be computed by application of unit prices based on quantities, estimated or actual as agreed on the items involved, except in such cases where a quantity exceeds the estimated quantity allowance in the contract by one hundred percent (100%) or more. In such cases, either party may elect to proceed under subparagraph c2 herein. If neither party elects to proceed under c2, then unit prices shall apply.
 2. The contracting parties shall negotiate and agree upon the equitable value of the change prior to issuance of the change order, and the change order shall stipulate the corresponding lump sum adjustment to the contract price.
- d. Under Paragraph b and c.2. above, the allowances for overhead and profit combined shall be as follows: all contractors (the single contracting entity (prime), his subcontractors (first tier), or their subcontractors (second tier, third tier, etc.) shall be allowed a maximum of ten percent (10%) on work they each self-perform; the prime contractor shall be allowed a maximum of five percent (5%) on contracted work of his first tier subcontractor; first tier, second tier, third tier, etc. subcontractors shall be allowed a maximum of two and one-half percent (2.5%) on the contracted work of their subcontractors. Under c.1. no additional allowances shall be made for overhead and profit. In the case of deductible change orders, under c.2. and b. above, the contractor shall include no less than five percent (5%) profit, but no allowances for overhead.
- e. The term "net cost" as used herein shall mean the difference between all proper cost additions and deductions. The "cost" as used herein shall be limited to the following:

1. The actual costs of materials and supplies incorporated or consumed as part of the work.
2. The actual costs of labor expended on the project site. Labor expended in coordination, change order negotiation, record document maintenance, shop drawing revision or other tasks necessary to the administration of the project are considered overhead whether they take place in an office or on the project site.
3. The actual costs of labor burden, limited to the costs of social security (FICA) and Medicare/Medicaid taxes; unemployment insurance costs; health/dental/vision insurance premiums; paid employee leave for holidays, vacation, sick leave, and/or petty leave, not to exceed a total of 30 days per year; retirement contributions; worker's compensation insurance premiums; and the costs of general liability insurance when premiums are computed based on payroll amounts; the total of which shall not exceed thirty percent (30%) of the actual costs of labor.
4. The actual costs of rental for tools, excluding hand tools; equipment; machinery; vehicles; and temporary facilities required for the work.
5. The actual costs of premiums for bonds, insurance, permit fees, and sales or use taxes related to the work.

Overtime and extra pay for holidays and weekends may be a cost item only to the extent approved by the owner.

- f. Should concealed conditions be encountered in the performance of the work below grade, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the contract documents, the contract sum and time for completion may be equitably adjusted by change order upon claim by either party made within thirty (30) days after the condition has been identified. The cost of such change shall be arrived at by one of the foregoing methods. All change orders shall be supported by a unit cost breakdown showing method of arriving at net cost as defined above.
- g. In all change orders, the procedure will be for the designer to request proposals for the change order work in writing. The contractor will provide such proposal and supporting data in suitable format. The designer shall verify correctness. Delay in the processing of the change order due to a lack of proper submittal by the contractor of all required supporting data shall not constitute grounds for a time extension or basis for a claim. Within fourteen (14) days after receipt of the contractor's accepted proposal including all supporting documentation required by the designer, the designer shall prepare the change order and forward to the contractor for his signature or otherwise respond, in writing, to the contractor's proposal. Within seven (7) days after receipt of the change order executed by the contractor, the designer shall certify the change order by his signature, and forward the change order and all supporting data to the owner for the owner's approval. The owner shall approve and execute the change order within seven (7) days of receipt. In case of emergency or extenuating circumstances, approval of changes may be obtained verbally by telephone or field orders approved by all parties, then shall be substantiated in writing as outlined under normal procedure.
- h. At the time of signing a change order, the contractor shall be required to certify as follows:

"I certify that my bonding company will be notified forthwith that my contract has been changed by the amount of this change order, and that a copy of the approved change order will be mailed upon receipt by me to my surety."

- i. A change order, when issued, shall be full compensation, or credit, for the extra work included, omitted or substituted. It shall show on its face the adjustment in time for completion of the project as a result of the change in the work.
- j. If, during the progress of the work, the owner requests a change order and the contractor's terms are unacceptable, the owner may require the contractor to perform such work on a time and material basis whereupon the contractor shall proceed and keep accurately on such form as specified by the designer or owner a correct account of the cost together with all proper invoices, payrolls and supporting data. Upon completion of the work a change order will be prepared with allowances for overhead and profit per paragraph d. above and "net cost" and "cost" per paragraph c. above. Without prejudice, nothing in this paragraph shall preclude the owner from performing or having performed that portion of the work requested in the change order.

ARTICLE 20 - CLAIMS FOR EXTRA COST

- a. Should the contractor consider that as a result of instructions given by the designer, he is entitled to extra cost above that stated in the contract, he shall give written notice thereof to the designer within seven (7) days. The written notice shall clearly state that a claim for extra cost is being made and shall provide a detailed justification for the extra cost. The contractor shall not proceed with the work affected until further advised, except in emergency involving the safety of life or property, which condition is covered in Article 19(b) and Article 11(h). No claims for extra compensation shall be considered unless the claim is so made. The designer shall render a written decision within seven (7) days of receipt of claim.
- b. The contractor shall not act on instructions received by him from persons other than the designer, and any claims for extra compensation or extension of time on account of such instruction will not be honored. The designer shall not be responsible for misunderstandings claimed by the contractor of verbal instructions which have not been confirmed in writing, and in no case shall instructions be interpreted as permitting a departure from the contract documents unless such instruction is confirmed in writing and supported by a properly authorized change order.
- c. Should a claim for extra compensation by the contractor that complies with the requirements of (a) above be denied by the designer or owner, and cannot be resolved by a representative of The University of North Carolina System Office, the contractor may request a mediation in connection with G.S. 143-128(f1) in the dispute resolution rules adopted by the State Building Commission (1 N.C.A.C. 30H .0101 through .1001). If the contractor is unable to resolve its claims as a result of mediation, the contractor may pursue his claim in accordance with the provisions of G.S. 143-135.3 and the following:
 1. A contractor who has not completed a contract with an institution of The University of North Carolina and who has not received the amount he claims is due under the contract may submit a verified written claim to the Associate Vice President for Finance & University Property Officer of The University of North Carolina System Office for the amount the contractor claims is due. If the claim remains unresolved after review by the Associate Vice President for Finance, the contractor may submit the verified written claim to the Director of the State Construction Office of the Department of Administration for the amount the contractor claims is due. The

Director may deny, allow or compromise the claim, in whole or in part. A claim under this subsection is not a contested case under Chapter 150B of the General Statutes.

2. (a) A contractor who has completed a contract with an institution of University of North Carolina for construction or repair work and who has not received the amount he claims is due under the contract may submit a verified written claim to the Associate Vice President for Finance & University Property Officer of The University of North Carolina System Office for the amount the contractor claims is due. If the claim remains unresolved after review by the Associate Vice President for Finance, the contractor may submit the verified written claim to the Director of the State Construction Office of the Department of Administration for the amount the contractor claims is due. The claim shall be submitted within sixty (60) days after the contractor receives a final statement of the Associate Vice President's disposition of his claim and shall state the factual basis for the claim.
- (b) The Director shall investigate a submitted claim within ninety (90) days of receiving the claim, or within any longer time period upon which the Director and the contractor agree. The contractor may appear before the Director, either in person or through counsel, to present facts and arguments in support of his claim. The Director may allow, deny or compromise the claim, in whole or in part. The Director shall give the contractor a written statement of the Director's decision on the contractor's claim.
- (c) A contractor who is dissatisfied with the Director's decision on a claim submitted under this subsection may commence a contested case on the claim under Chapter 150B of the General Statutes. The contested case shall be commenced within sixty (60) days of receiving the director's written statement of the decision.
- (d) As to any portion of a claim that is denied by the director, the contractor may, in lieu of the procedures set forth in the preceding subsection of this section, within six (6) months of receipt of the director's final decision, institute a civil action for the sum he claims to be entitled to under the contract by filing a verified complaint and the issuance of a summons in the Superior Court of Wake County or in the superior court of any county where the work under the contract was performed. The procedure shall be the same as in all civil actions except that all issues shall be tried by the judge, without a jury.

ARTICLE 21 - MINOR CHANGES IN THE WORK

The designer will have the authority to order minor changes in the work not involving an adjustment in the contract sum or time for completion, and not inconsistent with the intent of the contract documents. Such changes shall be effected by written order, copied to the owner, and shall be binding on the owner and the contractor.

ARTICLE 22 - UNCORRECTED FAULTY WORK

Should the correction of faulty or damaged work be considered inadvisable or inexpedient by the owner and the designer, the owner shall be reimbursed by the contractor. A change order will be issued to reflect a reduction in the contract sum.

ARTICLE 23 - TIME OF COMPLETION, DELAYS, EXTENSION OF TIME

- a. The time of completion is stated in the Supplementary General Conditions and in the Form of Construction Contract. The Project Expediter, upon notice of award of contract, shall prepare a construction schedule to complete the project within the time of completion as required by Article 14.
- b. The contractors shall commence work to be performed under this agreement on a date to be specified in a written Notice to Proceed from the designer and shall fully complete all work hereunder within the time of completion stated. Time is of the essence and the contractor acknowledges the owner will likely suffer financial damage for failure to complete the work within the time of completion. For each day in excess of the above number of days, the contractor(s) shall pay the owner the sum stated as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the owner by reason of failure of said contractor(s) to complete the work within the time specified, such time being in the essence of this contract and a material consideration thereof.
- c. In the event of multiple prime contractors, the designer shall be the judge as to the division of responsibility between the contractor(s), based on the construction schedule, weekly reports and job records, and shall apportion the amount of liquidated damages to be paid by each of them, according to delay caused by any or all of them.
- d. If the contractor is delayed at any time in the progress of his work solely by any act or negligence of the owner, the designer, or by any employee of either; by any separate contractor employed by the owner; by changes ordered in the work; by labor disputes at the project site; by abnormal weather conditions not reasonably anticipated for the locality where the work is performed; by unavoidable casualties; by any causes beyond the contractor's control; or by any other causes which the designer and owner determine may justify the delay, then the contract time may be extended by change order only for the time which the designer and owner may determine is reasonable.

Time extensions will not be granted for rain, wind, snow or other natural phenomena of normal intensity for the locality where work is performed. For purpose of determining extent of delay attributable to unusual weather phenomena, a determination shall be made by comparing the weather for the contract period involved with the average of the preceding five (5) year climatic range during the same time interval based on the National Oceanic and Atmospheric Administration National Weather Service statistics for the locality where work is performed and on daily weather logs kept on the job site by the contractor reflecting the effect of the weather on progress of the work and initialed by the designer's representative. No weather delays shall be considered after the building is dried in unless work claimed to be delayed is on the critical path of the baseline schedule or approved updated schedule. Time extensions for weather delays, acts of God, labor disputes, fires, delays in transportation, unavoidable casualties or other delays which are beyond the control of the owner do not entitle the contractor to compensable damages for delay. Any contractor claim for compensable damages for delays is limited to delays caused solely by the owner or its agents. Contractor caused delays shall be accounted for before owner or designer caused delays in the case of concurrent delays.

- e. Request for extension of time shall be made in writing to the designer with copies to the owner within twenty (20) days following cause of delay. In case of continuing cause for delay, the contractor shall notify the designer in writing with copies to the owner of the delay within twenty (20) days of the beginning of the delay and only one claim is necessary.

- f. The contractor shall notify his surety in writing of extension of time granted.
- g. No claim for time extension shall be allowed on account of failure of the designer to furnish drawings or instructions until twenty (20) days after demand for such drawings and/or instructions. See Article 5c. Demand must be in written form clearly stating the potential for delay unless the drawings or instructions are provided. Any delay granted will begin after the twenty (20) day demand period is concluded.

ARTICLE 24 - PARTIAL UTILIZATION BENEFICIAL OCCUPANCY

- a. The owner may desire to occupy or utilize all or a portion of the project prior to completion of the project.
- b. Should the owner request a utilization of the building or portion thereof, the designer shall perform a designer final inspection of the area after being notified by the contractor that the area is ready for such. After the contractor has completed designer final inspection punch list and the designer has verified, the designer shall schedule a beneficial occupancy inspection at a time and date acceptable to the owner, contractor(s) and State Construction Office. If beneficial occupancy is granted by the owner and State Construction Office, in such areas the following will be established:
 - 1. The beginning of guarantees and warranties period for the equipment necessary to provide support in the area.
 - 2. The owner assumes all responsibilities for utility costs for the entire building
 - 3. Contractor will obtain consent of surety.
 - 4. Contractor will obtain endorsement from insurance company permitting beneficial occupancy.
- c. The owner shall have the right to exclude the contractor from any part of the project which the designer has so certified to be substantially complete, but the owner will allow the contractor reasonable access to complete or correct work to bring it into compliance with the contract.
- d. Occupancy by the owner under this article will in no way relieve the contractor from his contractual requirement to complete the project within the specified time. The contractor will not be relieved of liquidated damages because of beneficial occupancy. The designer may prorate liquidated damages based on the percentage of project occupied.

ARTICLE 25 - FINAL INSPECTION, ACCEPTANCE AND PROJECT CLOSEOUT

- a. Upon notification from the contractor(s) that the project is complete and ready for inspection, the designer shall make a designer final inspection to verify that the project is complete and ready for owner and SCO final inspection. Prior to owner & SCO final inspection, the contractor(s) shall complete all items requiring corrective measures noted at the designer final inspection. The designer shall schedule a SCO final inspection at a time and date acceptable to the owner, contractor(s) and State Construction Office.
- b. At the SCO final inspection, the designer and his consultants shall, if job conditions warrant, record a list of items that are found to be incomplete or not in accordance with the contract documents. At the conclusion of the SCO final inspection, the designer, the

owner and State Construction Office representatives shall make one of the following determinations:

1. That the project is completed and accepted.
 2. That the project will be accepted subject to correction of the list of discrepancies (punch list). All punch list items must be completed within thirty (30) days of SCO final inspection or the owner may invoke Article 28, Owner's Right to Do Work.
 3. That the project is not complete and another date for a SCO final inspection will be established.
- c. Within fourteen (14) days of final acceptance per Paragraph b1 or within fourteen (14) days after completion of punch list per Paragraph b2 above, the designer shall certify the work and issue applicable certificate(s) of compliance.
- d. Any discrepancies listed or discovered after the date of SCO final inspection and acceptance under Paragraphs b1 or b2 above, shall be handled in accordance with Article 42, Guarantee.
- e. The final acceptance date will establish the following:
1. The beginning of guarantees and warranties period.
 2. The date on which the contractor's insurance coverage for public liability, property damage and builder's risk may be terminated.
 3. That no liquidated damages (if applicable) shall be assessed after this date.
 4. The termination date of utility cost to the contractor.
- f. Prior to issuance of final acceptance date, the contractor shall have his authorized representatives visit the project and give full instructions to the owner's designated personnel regarding operating, maintenance, care, and adjustment of all equipment and special construction elements. In addition, the contractor shall provide the owner a complete instructional video (media format acceptable to the owner) on the operation, maintenance, care, and adjustment of all equipment and special construction elements.

ARTICLE 26 - CORRECTION OF WORK BEFORE FINAL PAYMENT

- a. Any work, materials, fabricated items or other parts of the work which have been condemned or declared not in accordance with the contract by the designer shall be promptly removed from the work site by the contractor, and shall be immediately replaced by new work in accordance with the contract at no additional cost to the owner. Work or property of other contractors or the owner, damaged or destroyed by virtue of such faulty work, shall be made good at the expense of the contractor whose work is faulty.
- b. Correction of condemned work described above shall commence within twenty-four (24) hours after receipt of notice from the designer, and shall make satisfactory progress, as determined by the designer, until completed.
- c. Should the contractor fail to proceed with the required corrections, then the owner may complete the work in accordance with the provisions of Article 28.

ARTICLE 27 - CORRECTION OF WORK AFTER FINAL PAYMENT

See Article 35, Performance Bond and Payment Bond, and Article 42, Guarantee. Neither the final certificate, final payment, occupancy of the premises by the owner, nor any provision of the contract, nor any other act or instrument of the owner, nor the designer, shall relieve the contractor from responsibility for negligence, or faulty material or workmanship, or failure to comply with the drawings and specifications. The contractor shall correct or make good any defects due thereto and repair any damage resulting therefrom which may appear during the guarantee period following final acceptance of the work except as stated otherwise under Article 42, Guarantee. The owner will report any defects as they may appear to the contractor and establish a time limit for completion of corrections by the contractor. The owner will be the judge as to the responsibility for correction of defects.

ARTICLE 28 - OWNER'S RIGHT TO DO WORK

If, during the progress of the work or during the period of guarantee, the contractor fails to prosecute the work properly or to perform any provision of the contract, the owner, after seven (7) days' written notice sent by certified mail, return receipt requested, to the contractor from the designer, may perform or have performed that portion of the work. The cost of the work may be deducted from any amounts due or to become due to the contractor, such action and cost of same having been first approved by the designer. Should the cost of such action of the owner exceed the amount due or to become due the contractor, then the contractor or his surety, or both, shall be liable for and shall pay to the owner the amount of said excess.

ARTICLE 29 - ANNULMENT OF CONTRACT

If the contractor fails to begin the work under the contract within the time specified, or the progress of the work is not maintained on schedule, or the work is not completed within the time above specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work, or if the contractor shall become insolvent or be declared bankrupt or commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of forty-eight (48) hours, or shall make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the work in an acceptable manner, the owner may give notice in writing, sent by certified mail, return receipt requested, to the contractor and his surety of such delay, neglect or default, specifying the same, and if the contractor within a period of seven (7) days after such notice shall not proceed in accordance therewith, then the owner shall, declare this contract in default, and, thereupon, the surety shall promptly take over the work and complete the performance of this contract in the manner and within the time frame specified. In the event the surety shall fail to take over the work to be done under this contract within seven (7) days after being so notified and notify the owner in writing, sent by certified mail, return receipt requested, that he is taking the same over and stating that he will diligently pursue and complete the same, the owner shall have full power and authority, without violating the contract, to take the prosecution of the work out of the hands of said contractor, to appropriate or use any or all contract materials and equipment on the grounds as may be suitable and acceptable and may enter into an agreement, either by public letting or negotiation, for the completion of said contract according to the terms and provisions thereof or use such other methods as in his opinion shall be required for the completion of said contract in an acceptable manner. All costs and charges incurred by the owner, together with the costs of completing the work under contract, shall be deducted from any monies due or which may become due said contractor and surety. In case the expense so incurred

by the owner shall be less than the sum which would have been payable under the contract, if it had been completed by said contractor, then the said contractor and surety shall be entitled to receive the difference, but in case such expense shall exceed the sum which would have been payable under the contract, then the contractor and the surety shall be liable and shall pay to the owner the amount of said excess.

ARTICLE 30 - CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE THE CONTRACT

- a. Should the work be stopped by order of a court having jurisdiction, or by order of any other public authority for a period of three months, due to cause beyond the fault or control of the contractor, or if the owner should fail or refuse to make payment on account of a certificate issued by the designer within forty-five (45) days after receipt of same, then the contractor, after fifteen (15) days' written notice sent by certified mail, return receipt requested, to the owner and the designer, may suspend operations on the work or terminate the contract.
- b. The owner shall be liable to the contractor for the cost of all materials delivered and work performed on this contract plus ten (10) percent overhead and profit and shall make such payment. The designer shall be the judge as to the correctness of such payment.

ARTICLE 31 - REQUEST FOR PAYMENT

- a. Not later than the fifth day of the month, the contractor shall submit to the designer a request for payment for work done during the previous month. The request shall be in the form agreed upon between the contractor and the designer, but shall show substantially the value of work done and materials delivered to the site during the period since the last payment, and shall sum up the financial status of the contract with the following information:
 1. Total of contract including change orders.
 2. Value of work completed to date.
 3. Less five percent (5%) retainage, provided however, that after fifty percent (50%) of the contractor's work has been satisfactorily completed on schedule, with approval of the owner and written consent of the surety, further requirements for retainage will be waived only so long as work continues to be completed satisfactorily and on schedule.
 4. Less previous payments.
 5. Current amount due.
- b. The contractor, upon request of the designer, shall substantiate the request with invoices of vouchers or payrolls or other evidence.
- c. Prior to submitting the first request, the contractor shall prepare for the designer a schedule showing a breakdown of the contract price into values of the various parts of the work, so arranged as to facilitate payments to subcontractors in accordance with Article 17, Contractor and Subcontractor Relationships. The contractor(s) shall list the value of each subcontractor and supplier, identifying each minority business subcontractor and supplier as listed in Affidavit C, if applicable.

- d. When payment is made on account of stored materials and equipment, such materials must be stored on the owner's property, and the requests for payments shall be accompanied by invoices or bills of sale or other evidence to establish the owner's title to such materials and equipment. Such payments will be made only for materials that have been customized or fabricated specifically for this project. Raw materials or commodity products including but not limited to piping, conduit, CMU, metal studs and gypsum board may not be submitted. Responsibility for such stored materials and equipment shall remain with the contractor regardless of ownership title. Such stored materials and equipment shall not be removed from the owner's property. Should the space for storage on-site be limited, the contractor, at his option, shall be permitted to store such materials and/or equipment in a suitable space off-site. Should the contractor desire to include any such materials or equipment in his application for payment, they must be stored in the name of the owner in an independent, licensed, bonded warehouse approved by the designer and the owner and located as close to the site as possible. The warehouse selected must be approved by the contractor's bonding and insurance companies; the material to be paid for shall be assigned to the owner and shall be inspected by the designer. Upon approval by the designer and owner of the storage facilities and materials and equipment, payment therefore will be certified. Responsibility for such stored materials and equipment shall remain with the contractor. Such stored materials and equipment shall not be moved except for transportation to the project site. Under certain conditions, the designer may approve storage of materials at the point of manufacture, which conditions shall be approved by the designer and the owner prior to approval for the storage and shall include an agreement by the storing party which unconditionally gives the State absolute right to possession of the materials at any time. Bond, security and insurance protection shall continue to be the responsibility of the contractor(s).
- e. On projects requiring a Critical Path Method (CPM) construction schedule, the project expeditor will submit with each monthly pay application to the designer a current CPM schedule in a computerized precedence network format on a compact disc. The schedule will include all construction activities to be accomplished during the project to be properly sequenced and coordinated with elements of the work. The schedule shall be assembled from input presented and mutually coordinated by all the contractors (and/or subcontractors) and integrated into a single, overall schedule. The project expeditor will show all the scheduled work activities, including their subcontractors, and the sequence and interdependence (predecessors and successors) of the activities. The schedule shall show the total project duration including milestone dates. The critical path shall be clearly indicated. The schedule shall be in such a format that it can be read (imported) in Microsoft Project or Primavera P6. Failure to submit the construction schedule on compact disc media in an acceptable format will result in the pay application being denied.
- f. In the event of beneficial occupancy, retainage of funds due the contractor(s) may be reduced with the approval of the owner to an equitable amount to cover the list of items to be completed or corrected. Retainage may not be reduced to less than two and one-half (2 1/2) times the estimated value of the work to be completed or corrected. Reduction of retainage must be with the consent and approval of the contractor's bonding company.

ARTICLE 32 - CERTIFICATES OF PAYMENT AND FINAL PAYMENT

- a. Within five (5) days from receipt of request for payment from the contractor, the designer shall issue and forward to the owner a certificate for payment. This certificate shall indicate the amount requested or as approved by the designer. If the certificate is

not approved by the designer, he shall state in writing to the contractor and the owner his reasons for withholding payment.

- b. No certificate issued or payment made shall constitute an acceptance of the work or any part thereof. The making and acceptance of final payment shall constitute a waiver of all claims by the owner except:
 - 1. Claims arising from unsettled liens or claims against the contractor.
 - 2. Faulty work or materials appearing after final payment.
 - 3. Failure of the contractor to perform the work in accordance with drawings and specifications, such failure appearing after payment.
 - 4. As conditioned in the performance bond and payment bond.
- c. The making and acceptance of final payment shall constitute a waiver of all claims by the contractor except those claims previously made and remaining unsettled (Article 20(c)).
- d. Prior to submitting request for final payment to the designer for approval, the contractor shall fully comply with all requirements specified in the "project closeout" section of the specifications. These requirements include but are not limited to the following:
 - 1. Submittal of Product and Operating Manuals, Warranties and Bonds, Guarantees, Maintenance Agreements, As-Built Drawings, Certificates of Inspection or Approval from agencies having jurisdiction. (The designer must approve the Manuals prior to delivery to the owner).
 - 2. Transfer of Required attic stock material and all keys in an organized manner.
 - 3. Record of Owner's training.
 - 4. Resolution of any final inspection discrepancies.
 - 5. Granting access to contractor's records, if owner's internal auditors have made a request for such access pursuant to Article 52.
- e. The contractor shall forward to the designer, the final application for payment along with the following documents:
 - 1. List of minority business subcontractors and material suppliers showing breakdown of contract amounts and total actual payments to subcontractors and material suppliers.
 - 2. Affidavit of Release of Liens.
 - 3. Affidavit of contractors of payment to material suppliers and subcontractors. (See Article 36).
 - 4. Consent of Surety to Final Payment.
 - 5. Certificates of state agencies required by state law.

- f. The designer will not authorize final payment until the work under contract has been certified by designer, certificates of compliance issued, and the contractor has complied with the closeout requirements. The designer shall forward the contractor's final application for payment to the owner along with respective certificate(s) of compliance required by law.

ARTICLE 33 - PAYMENTS WITHHELD

- a. The designer with the approval of the owner may withhold payment for the following reasons:
 - 1. Faulty work not corrected.
 - 2. The unpaid balance on the contract is insufficient to complete the work in the judgment of the designer.
 - 3. To provide for sufficient contract balance to cover liquidated damages that will be assessed.
- b. The owner may authorize the withholding of payment for the following reasons:
 - 1. Claims filed against the contractor or evidence that a claim will be filed.
 - 2. Evidence that subcontractors have not been paid.
- c. The owner may withhold all or a portion of the contractor's general conditions costs set forth in the approved schedule of values if the contractor has failed to comply with: (1) a request to access its records by the owner's internal auditors pursuant to Article 52; (2) a request for a plan of action and/or recovery schedule under Article 14j; (3) a request to provide electronic copies of contractor's baseline schedule and/or updates with all logic used to create schedules in the original format of the scheduling software; and (4) contractor's failure to have its superintendent on the project as provided in Article 14.1 and/or as stipulated in the Supplementary General Conditions.
- d. When grounds for withholding payments have been removed, payment will be released. Delay of payment due the contractor without cause will make owner liable for payment of interest to the contractor in accordance with G.S. 143-134.1. As provided in G.S. 143-134.1(e) the owner shall not be liable for interest on payments withheld by the owner for unsatisfactory job progress, defective construction not remedied, disputed work, or third party-claims filed against the owner or reasonable evidence that a third-party claim will be filed.

ARTICLE 34 - MINIMUM INSURANCE REQUIREMENTS

The work under this contract shall not commence until the contractor has obtained all required insurance and verifying certificates of insurance have been approved in writing by the owner. These certificates shall document that coverage afforded under the policies will not be cancelled, reduced in amount or coverages eliminated until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the owner of such alteration or cancellation. If endorsements are needed to comply with the notification or other requirements of this article copies of the endorsements shall be submitted with the certificates.

- a. **Worker's Compensation and Employer's Liability**

The contractor shall provide and maintain, until final acceptance, workmen's compensation insurance, as required by law, as well as employer's liability coverage with minimum limits of \$100,000.

b. Public Liability and Property Damage

The contractor shall provide and maintain, until final acceptance, comprehensive general liability insurance, including coverage for premises operations, independent contractors, completed operations, products and contractual exposures, as shall protect such contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

Bodily Injury: \$500,000 per occurrence
Property Damage: \$100,000 per occurrence / \$300,000 aggregate

In lieu of limits listed above, a \$500,000 combined single limit shall satisfy both conditions.

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the work performed under the contract.

c. Property Insurance (Builder's Risk/ Installation Floater)

The contractor shall purchase and maintain property insurance until final acceptance, upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the owner, the contractor, the subcontractors and subcontractors in the work and shall insure against the perils of fire, wind, rain, flood, extended coverage, and vandalism and malicious mischief. If the owner is damaged by failure of the contractor to purchase or maintain such insurance, then the contractor shall bear all reasonable costs properly attributable thereto; the contractor shall effect and maintain similar property insurance on portions of the work stored off the site when request for payment per articles so includes such portions.

d. Deductible

Any deductible, if applicable to loss covered by insurance provided, is to be borne by the contractor

e. Other Insurance

The contractor shall obtain such additional insurance as may be required by the owner or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

f. Proof of Carriage

The contractor shall furnish the owner with satisfactory proof of carriage of the insurance required before written approval is granted by the owner.

ARTICLE 35 - PERFORMANCE BOND AND PAYMENT BOND

- a. Each contractor shall furnish a performance bond and payment bond executed by a surety company authorized to do business in North Carolina. The bonds shall be in the full contract amount. Bonds shall be executed in the form bound with these specifications.
- b. All bonds shall be countersigned by an authorized agent of the bonding company who is licensed to do business in North Carolina.

ARTICLE 36 - CONTRACTOR'S AFFIDAVIT

The final payment of retained amount due the contractor on account of the contract shall not become due until the contractor has furnished to the owner through the designer an affidavit signed, sworn and notarized to the effect that all payments for materials, services or subcontracted work in connection with his contract have been satisfied, and that no claims or liens exist against the contractor in connection with this contract. In the event that the contractor cannot obtain similar affidavits from subcontractors to protect the contractor and the owner from possible liens or claims against the subcontractor, the contractor shall state in his affidavit that no claims or liens exist against any subcontractor to the best of his (the contractor's) knowledge, and if any appear afterward, the contractor shall save the owner harmless.

ARTICLE 37 - ASSIGNMENTS

The contractor shall not assign any portion of this contract nor subcontract in its entirety. Except as may be required under terms of the performance bond or payment bond, no funds or sums of money due or become due the contractor under the contract may be assigned.

ARTICLE 38 - USE OF PREMISES

- a. The contractor(s) shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the designer and owner and shall not exceed those established limits in his operations.
- b. The contractor(s) shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.
- c. The contractor(s) shall enforce the designer's and owner's instructions regarding signs, advertisements, fires and smoking.
- d. No firearms, any type of alcoholic beverages, or drugs (other than those prescribed by a physician) will be permitted at the job site.

ARTICLE 39 - CUTTING, PATCHING AND DIGGING

- a. The contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by the drawings and specifications for the completed structure, as the designer may direct.
- b. Any cost brought about by defective or ill-timed work shall be borne by the party responsible therefor.

- c. No contractor shall endanger any work of another contractor by cutting, digging or other means. No contractor shall cut or alter the work of any other contractor without the consent of the designer and the affected contractor(s).

ARTICLE 40 - UTILITIES, STRUCTURES, SIGNS

- a. The contractor shall provide necessary and adequate facilities for water, electricity, gas, oil, sewer and other utility services which may be necessary and required for completion of the project including all utilities required for testing, cleaning, balancing and sterilization of designated plumbing, mechanical and electrical systems. Any permanent meters installed shall be listed in the contractor's name until work has a final acceptance. The contractor will be solely responsible for all utility costs prior to final acceptance unless stipulated otherwise in the project specifications. The contractor shall contact all affected utility companies prior to bid to determine their requirements to provide temporary and permanent service and include all costs associated with providing those services in their bid unless otherwise stipulated. Coordination of the work of the utility companies during construction is the sole responsibility of the contractor.
- b. Meters shall be relisted in the owner's name on the day following final acceptance of the work, and the owner shall pay for services used after that date.
- c. The owner shall be reimbursed for all metered utility charges after the meter is relisted in the owner's name and prior to completion and acceptance of the work of **all** contractors. Reimbursement shall be made by the contractor whose work has not been completed and accepted. If the work of two or more contractors has not been completed and accepted, reimbursement to the owner shall be paid by the contractors involved on the basis of assessments by the designer.
- d. Prior to the operation of permanent systems, the General Contractor will provide temporary power, lighting, water, and heat to maintain space temperature above freezing, as required for construction operations.
- e. All contractors shall have the permanent building systems in sufficient readiness for furnishing temporary climatic control at the time a building is enclosed and secured. The HVAC systems shall maintain climatic control throughout the enclosed portion of the building sufficient to allow completion of the interior finishes of the building. A building shall be considered enclosed and secured when windows, doorways (exterior, mechanical, and electrical equipment rooms), and hardware are installed; and other openings have protection which will provide reasonable climatic control. The appropriate time to start the mechanical systems and climatic condition shall be jointly determined by the contractor(s), the designer and the owner. Use of the equipment in this manner shall be subject to the approval of the designer and owner and shall in no way affect the warranty requirements of the contractor(s).
- f. The electrical contractor shall have the building's permanent power wiring distribution system in sufficient readiness to provide power as required by the HVAC contractor for temporary climatic control.
- g. The electrical contractor shall have the building's permanent lighting system ready at the time the general contractor begins interior painting and shall provide adequate lighting in those areas where interior painting and finishing is being performed.

- h. Each prime contractor shall be responsible for his permanently fixed service facilities and systems in use during progress of the work. The following procedures shall be strictly adhered to:
 - 1. Prior to acceptance of work by the State Construction Office and owner, each contractor shall remove and replace any parts of the permanent building systems damaged through use during construction.
 - 2. Temporary filters as recommended by the equipment manufacturer in order to keep the equipment and ductwork clean and free of dust and debris shall be installed in each of the heating and air conditioning units and at each return grille during construction. New filters shall be installed in each unit prior to the owner's acceptance of the work.
 - 3. Extra effort shall be maintained to keep the building and the site adjacent to the building clean and under no circumstances shall air systems be operated if finishing operations are creating dust in excess of what would be considered normal if the building were occupied.
 - 4. It shall be understood that any warranty on equipment presented to the owner shall extend from the day of final acceptance by the owner. The cost of warranting the equipment during operation in the finishing stages of construction shall be borne by the contractor whose system is utilized.
 - 5. The electrical contractor shall have all lamps in proper working condition at the time of final project acceptance.
- i. The General Contractor shall provide, if required and where directed, a shed for toilet facilities and shall furnish and install in this shed all water closets required for a complete and adequate sanitary arrangement. These facilities will be available to other contractors on the job and shall be kept in a neat and sanitary condition at all times. Chemical toilets are acceptable.
- j. The General Contractor shall, if required by the Supplementary General Conditions and where directed, erect a temporary field office, complete with lights, telephone, heat and air conditioning. A portion of this office shall be partitioned off, of sufficient size, for the use of a resident inspector, should the designer so direct.
- k. On multi-story construction projects, the General Contractor shall provide temporary elevators, lifts, or other special equipment for the general use of all contractors. The cost for such elevators, lifts or other special equipment and the operation thereof shall be included in the General Contractor's bid.
 - l. The General Contractor will erect one sign on the project if required. The sign shall be of sound construction, and shall be neatly lettered with black letters on white background. The sign shall bear the name of the project, and the names of prime contractors on the project, and the name of the designer and consultants. Directional signs may be erected on the owner's property subject to approval of the owner with respect to size, style and location of such directional signs. Such signs may bear the name of the contractor and a directional symbol. No other signs will be permitted except by permission of the owner.

ARTICLE 41 - CLEANING UP

- a. The contractors shall keep the building and surrounding area reasonably free from rubbish at all times, and shall remove debris from the site on a timely basis or when directed to do so by the designer or General Contractor. The General Contractor shall provide an onsite refuse container(s) for the use of all contractors. Each contractor shall remove their rubbish and debris from the building on a daily basis. The General Contractor shall broom clean the building as required to minimize dust and dirt accumulation.
- b. The General Contractor shall provide and maintain suitable all-weather access to the building.
- c. Before final inspection and acceptance of the building, each contractor shall clean his portion of the work, including glass, hardware, fixtures, masonry, tile and marble (using no acid), clean and wax all floors as specified, and completely prepare the building for use by the owner, with no cleaning required by the owner.

ARTICLE 42 - GUARANTEE

- a. The contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the date of final acceptance of the work or beneficial occupancy; and shall replace such defective materials or workmanship without cost to the owner.
- b. Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The contractor shall replace such defective equipment or materials, without cost to the owner, within the manufacturer's warranty period.
- c. Additionally, the owner may bring an action for latent defects caused by the negligence of the contractor which is hidden or not readily apparent to the owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.
- d. Guarantees for roof, equipment, materials, and supplies shall be stipulated in the specifications sections governing such roof, equipment, materials, or supplies.

ARTICLE 43 - CODES AND STANDARDS

Wherever reference is given to codes, standard specifications or other data published by regulating agencies including, but not limited to, national electrical codes, North Carolina state building codes, federal specifications, ASTM specifications, various institute specifications, etc., it shall be understood that such reference is to the latest edition including addenda published prior to the date of the contract documents.

ARTICLE 44 - INDEMNIFICATION

To the fullest extent permitted by law, the contractor shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from the performance or failure of performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other

than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the contractor, the contractor's subcontractor, or the agents of either the contractor or the contractor's subcontractor. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this article.

ARTICLE 45 - TAXES

- a. Federal excise taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3442(3)).
- b. Federal transportation taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3475(b) as amended).
- c. North Carolina sales tax and use tax, as required by law, do apply to materials entering into state work, and such costs shall be included in the bid proposal and contract sum.
- d. Local option sales and use taxes, as required by law, do apply to materials entering into state work as applicable, and such costs shall be included in the bid proposal and contract sum.
- e. **Accounting Procedures for Refund of County Sales & Use Tax**

Amount of county sales and use tax paid per contractor's statements:

Contractors performing contracts for state agencies shall give the state agency for whose project the property was purchased a signed statement containing the information listed in G.S. 105-164.14(e).

The Department of Revenue has agreed that in lieu of obtaining copies of sales receipts from contractors, an agency may obtain a certified statement from the contractor setting forth the date, the type of property and the cost of the property purchased from each vendor, the county in which the vendor made the sale and the amount of local sales and use taxes paid thereon. If the property was purchased out-of-state, the county in which the property was delivered should be listed. The contractor should also be notified that the certified statement may be subject to audit.

In the event the contractors make several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices, the counties, and the county sales and use taxes paid thereon.

Name of taxing county: The position of a sale is the retailer's place of business located within a taxing county where the vendor becomes contractually obligated to make the sale. Therefore, it is important that the county tax be reported for the county of sale rather than the county of use.

When property is purchased from out-of-state vendors and the county tax is charged, the county should be identified where delivery is made when reporting the county tax.

Such statement must also include the cost of any tangible personal property withdrawn from the contractor's warehouse stock and the amount of county sales or use tax paid thereon by the contractor.

Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant.

Contractors are not to include any tax paid on supplies, tools and equipment which they use to perform their contracts and should include only those building materials, supplies, fixtures and equipment which actually become a part of or annexed to the building or structure.

ARTICLE 46 - EQUAL OPPORTUNITY CLAUSE

The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to 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, are incorporated herein.

ARTICLE 47 - EMPLOYMENT OF INDIVIDUALS WITH DISABILITIES

The contractors agree not to discriminate against any employee or applicant for employment because of physical or mental disabilities in regard to any position for which the employee or applicant is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals with such disabilities without discrimination based upon their physical or mental disability in all employment practices.

ARTICLE 48 - ASBESTOS-CONTAINING MATERIALS (ACM)

The State of North Carolina has attempted to address all asbestos-containing materials that are to be disturbed in the project. However, there may be other asbestos-containing materials in the work areas that are not to be disturbed and do not create an exposure hazard. Contractors are reminded of the requirements of instructions under Instructions to Bidders and General Conditions of the Contract, titled Examination of Conditions. Statute 130A, Article 19, amended August 3, 1989, established the Asbestos Hazard Management Program that controls asbestos abatement in North Carolina. The latest edition of *Guideline Criteria for Asbestos Abatement* from the State Construction Office is to be incorporated in all asbestos abatement projects for the Capital Improvement Program.

ARTICLE 49 - MINORITY BUSINESS PARTICIPATION

GS 143-128.2 establishes a ten percent (10%) goal for participation by minority business in total value of work for each State building project. The document *Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts* including Affidavits and Appendix E are hereby incorporated and made a part of this contract.

ARTICLE 50 – CONTRACTOR EVALUATION

The Contractor's overall work performance on the project shall be fairly evaluated in accordance with the State Building Commission policy and procedures, for determining qualifications to bid on future State capital improvement projects. In addition to final evaluation, interim evaluation may be prepared during the progress of project. The document, Contractor Evaluation Procedures, is hereby incorporated and made a part of this contract. The owner may request the contractor's comments to evaluate the designer.

ARTICLE 51- GIFTS

Pursuant to General Statute 133-32, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, subcontractor, supplier, etc.) to make gifts or give favors to any State employee. This prohibition covers those vendors and contractors who: (1) have a contract with a government agency; or (2) have performed under such a contract during the past year; or (3) anticipate bidding on such a contract in the future. For additional information regarding the specific requirements and exemptions, vendors and contractors are encouraged to review General Statute 133-32.

The contractor is prohibited from making gifts to any of the owner's employees, owner's project representatives (architect, engineers, construction manager and their employees), employees of the State Construction Office and/or any other state employees that may have any involvement, influence, responsibilities, oversight, management and/or duties that pertain to and/or relate to the construction administration, financial administration and/or disposition of claims arising from and/or relating to the contract and/or the project.

ARTICLE 52 – AUDITING – ACCESS TO PERSONS AND RECORDS

In accordance with General Statute.147-64.7, the State Auditor shall have access to the contractor's officers, employees, agents and/or other persons in control of and/or responsible for the contractor's records that relate to this contract for purposes of conducting audits under the referenced statute. The owner's internal auditors shall also have the right to access and copy the contractor's records relating to the contract and project during the term of the contract and within two years following the completion of the project/close out of the contract to verify accounts, accuracy, information, calculations and/or data affecting and/ or relating to contractor's requests for payment, requests for change orders, change orders, claims for extra work, requests for time extensions and related claims for delay/extended general conditions costs, claims for lost productivity, claims for lost efficiency, claims for idle equipment or labor, claims for price/cost escalation, pass-through claims of subcontractors and/or suppliers, and/or any other type of claim for payment or damages from the owner and/or the owner's project representatives.

ARTICLE 53 – NORTH CAROLINA FALSE CLAIMS ACT

The North Carolina False Claims Act (NCFCA), General Statute 1-605 through 1-618, applies to this contract. The contractor should familiarize itself with the entire NCFCA and its applicability to any requests, demands and/or claims for payment submitted to the State through the contracting university or affiliate.

The purpose of the NCFCA "is to deter persons from knowingly causing or assisting in causing the state to pay claims that are false or fraudulent and to provide remedies in the form of treble damages and civil penalties when money is obtained from the state by reason of a false or fraudulent claim" (Section 1-605[b]). A contractor's liability under NCFCA may arise from, but not be limited to: requests for payment, invoices, billing, claims for extra work, requests for change orders, requests for time extensions, claims for delay damages/extended general conditions costs, claims for lost productivity, claims for lost efficiency, claims for idle equipment or labor, claims for price/cost escalation, pass through claims of subcontractors and/or suppliers, documentation used to support any of the foregoing requests for claims, and/or any other request for payment from the state through the contracting state agency, institution or university. The parts of the NCFCA that are most likely to be enforced with respect to this type of contract are as follows:

- A “claim” is “[a]ny request or demand, whether under a contract or otherwise, for money or property and whether or not the State has title to the money or property that (i) is presented to an officer, employee, or agent of the State or (ii) is made by a contractor...if the money or property is to be spent or used on the State’s behalf or to advance a State program or interest and if the State government: (a) provides or has provided any portion of the money or property that is requested or demanded; or (b) will reimburse such contractor... for any portion of the money or property which is requested or demanded.” (Section 1-606(2).)
- “Knowing” and “knowingly” – whenever a person, with respect to information, does any of the following: (a) Has actual knowledge of the information; (b) Acts in deliberate ignorance of the truth or falsity of the information; and/or (c) Acts in reckless disregard of the truth or falsity of the information. (Section 1-606 (4).) Proof of specific intent to defraud is not required. (Section 1-606 (4).)
- “Material” means having a natural tendency to influence, or be capable of influencing, the payment or receipt of money or property. (Section 1-606(4).)
- Liability – “Any person who commits any of the following acts shall be liable to the State for three times the amount of damages that the State sustains because of the act of that person[:] ... (1) Knowingly presents or causes to be presented a false or fraudulent claim for payment or approval. (2) Knowingly makes, uses, or causes to be made or used, a false record or statement material to a false or fraudulent claim. (3) Conspires to commit a violation of subdivision (1), (2) ...” (Section 1-607(a)(1), (2).)
- The NCFCA shall be interpreted and construed so as to be consistent with the federal False Claims Act, 31 U.S.C. 3729, et seq., and any subsequent amendments to that act. (Section 1-616©.)

Finally, the contracting university or affiliate may refer any suspected violation of the NCFCA by the contractor to the Attorney General’s Office for investigation. Under Section 1-608(a), the Attorney General is responsible for investigating any violation of NCFCA, and may bring a civil action against the contractor under the NCFCA. The Attorney General’s investigation and any civil action relating thereto are independent and not subject to any dispute resolution provision set forth in this contract. (See Section 1-608(a).)

ARTICLE 54 – TERMINATION FOR CONVENIENCE

- a. The owner may, at any time and for any reason terminate the contractor’s services and work at the owner’s convenience. Upon receipt of such notice, the contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing orders for materials, facilities and supplies in connection with the performance of this agreement.
- b. Upon such termination, the contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this agreement; plus, (2) such other costs actually incurred by the contractor as are permitted by the prime contract and approved by the owner; (3) plus ten percent (10%) of the cost of the work referred to in subparagraph (1) above for overhead and profit. There shall be deducted from such sums as provided in this subparagraph the amount of any payments made to the contractor prior to the date of the termination of this agreement. The contractor shall not be entitled to any claim or claim of lien against the owner for any additional compensation or damages in the event of such termination and payment.

SUPPLEMENTAL GENERAL CONDITIONS

The following modify the June 2021, Sixth Edition of the General Conditions of the Contract, University of North Carolina System Office and supersedes them only whenever they are in conflict. Unaltered provisions of the General Conditions shall remain in effect.

1.1 ARTICLE 1 - DEFINITIONS

- A. The "Owner" is the State of North Carolina through The University of North Carolina at Wilmington.
- B. The "Designer" referred to herein, shall mean REI Engineers, Inc., 2708-A Exchange Drive, Wilmington, NC 28405.

1.2 ARTICLE 5 - SHOP DRAWINGS, SUBMITTALS, SAMPLES, DATA

- A. Modify Paragraph b to read:

The Contractor(s) shall review, approve and submit to the Designer all Shop Drawings, Coordination Drawings, Product Data, Samples, Color Charts, and similar submittal data required or reasonably implied by the Contract Documents. Required Submittals shall bear the Contractor's stamp of approval, any exceptions to the Contract Documents shall be noted on the submittals. Contractor shall submit one complete set of submittals to the designer electronically for their review.

- B. Modify Paragraph c to read:

The Designer shall review required submittals promptly, noting desired corrections if any. The submittals will then be returned electronically to the Contractor with comments. Final submittals require written responses to submittal comments. Contractor shall submit 3 hard copies of final accepted submittals to Designer and retain one hard copy for storage on-site during project.

1.3 ARTICLE 23 - TIME OF COMPLETION, DELAYS, EXTENSIONS OF TIME

- A. ADD to paragraph b:

After the contract completion date, the Designer shall deduct from all contractor pay applications, the liquidated damages in the amount of the daily liquidated damage rate times the number of calendar days after the contract completion date minus any previously assessed liquidated damages.

- B. Add to paragraph d:

The "5-year average of precipitation" shall be determined only by applying daily amounts greater than one-tenth (0.10) of an inch. Only amounts exceeding 0.10 inch shall be applied in determining the actual number of "rain days" for a given month.

The Contractor shall maintain, on site, a hard bound log book to record daily precipitation

data from the agreed upon weather center. The Log shall also record any corresponding impacts to activities on the critical path. The Log shall be maintained on a daily basis and made available for inspection by the Designer or Owner at any time.

Saturdays, Sundays, and holidays are available to recover lost time due to weather. Time extensions for weather related delays which affect the critical path and exceed the NOAA 5-year average for a particular month, will only be granted provided the contractor makes an effort to make-up work on weekends or holidays following the rain event. Exceptions to this requirement may be granted in cases where rain occurs on a make-up day.

The effect of "rain days" may impact Critical Path work activities for a period more than the average rain days for any period, such as dewatering, cleanup, etc. which would follow a rain event. The Contractor shall include in the Project Schedule, sufficient days to accommodate weather related delays which will result from the 5-year average precipitation for each month. It is the responsibility of the Contractor to maintain such a log and to obtain the verification and initials of the Designer's representative on a monthly routine basis. The Contractor shall transmit logs and 5 year weather data averages to the Designer monthly. The Designer shall make weather delay determinations by comparing verified Contractor's logs with the 5 year averages over the duration of the Project. All approved weather delays shall be reported to the Contractor or Project Expediter and to the Owner and shall be accumulated and granted in 1 or more Change Orders. Contract time shall not be shortened by weather conditions which are more advantageous than had been predicted.

C. ADD paragraph h:

Time:

1. The Contractor shall commence work to be performed under this agreement on a date to be specified in a written order from the designer and shall fully complete all work by August 8, 2025.
2. For each day in excess of the above number of days, the Contractor shall pay to the Owner the sum of \$200.00 per day per bed or actual costs, each calendar day as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the Owner by reason of failure of said Contractor to complete the work within the time specified, such time being in the essence of this contract and a material consideration thereof.
3. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate or progress as will ensure full completion thereof within the time specified.

1.4 ARTICLE 31 - REQUEST FOR PAYMENT

A. Add to paragraph a:

The Request for Payment shall be on forms described by North Carolina State Construction Manual Section 323 and similar to AIA Documents G702 and G703, latest edition. The Request for Payment shall list materials and labor separately for each Section of the Project Manual. When Request for Payment includes (1) materials stored other than on the Owner's property, or, (2) if allowed by the Owner, other than within the boundaries of the State of North Carolina, request for Payment will not be considered and another Request for Payment shall be made.

Contractor or each Prime Contractor shall also attach to the application all receipts and vouchers required to verify the requested payments for stored materials. No payment made to

the Contractor by the Owner shall constitute acceptance of any work or materials not in accordance with the true intent of the Contract.

The Contractor shall additionally include on each monthly Application for Payment the following statement: "We certify that the Surety for this Project has been duly notified of the amount of this request." Unless exception to pay is made by the Surety to the Designer within 4 calendar days following the date of request, it will be assumed that the Surety concurs in the payment of this application.

B. Add to paragraph c:

The contractor shall submit to the Designer for review and Owner approval a complete schedule of values of the various parts of the work listed in the numerical order of the specifications. The schedule shall be dated and signed by the Contractor and shall include a description of the work, quantities, labor, materials, and total Contract amount for each item. Upon Owner approval of this schedule of values, the schedule shall be used as the basis for determining monthly payments and, therefore, is needed in advance of the Contractor submitting the first application and certification for payment. Should the schedule of values include any value for mobilization, the schedule of values shall include an equal value for demobilization.

1.5 ARTICLE 32 – CERTIFICATES OF PAYMENT AND FINAL PAYMENT

A. ADD to paragraph f:

The final payment of retained amount due to the Contractor on account of the Contract shall not become due until the Contractor has furnished to the Owner, through the Designer, Guarantees as set forth in the General and Supplementary General Conditions including other Guarantees required by specific Sections of the Project Manual. In addition to the above, all other submissions required by other Articles and Sections of the Project Manual must be in the hands of the Designer before approval of final payment.

1.6 ARTICLE 34 - MINIMUM INSURANCE REQUIREMENTS

A. ADD to opening paragraph:

The Designer shall be named as additional insured party on all insurance policies supplied by the Contractor.

1.7 ARTICLE 42 - GUARANTEE

A. ADD Paragraph e:

The Roofing Contractor shall warrant the materials and workmanship of the roofing system against leakage and against defects due to faulty materials, workmanship and contract negligence for a period of two (2) years following the date of final acceptance of the work.

B. ADD Paragraph f:

The Roofing System Manufacturer shall inspect the installation and warrant the materials and workmanship of the roofing system against leakage for a minimum period of twenty (20) years following acceptance of the project by the Owner.

1.8 ARTICLE 45 - TAXES.

A. ADD to paragraph e:

Contractors shall submit monthly with their request for payment, a signed statement containing the amount of sales and use tax paid by the Contractor for that particular billing period."

END OF SUPPLEMENTAL GENERAL CONDITIONS

GUIDELINES FOR RECRUITMENT AND SELECTION OF MINORITY BUSINESSES FOR PARTICIPATION IN STATE CONSTRUCTION CONTRACTS

In accordance with G.S. 143-128.2 (effective January 1, 2002) these guidelines establish goals for minority participation in single-prime bidding, separate-prime bidding, construction manager at risk, and alternative contracting methods, on State construction projects in the amount of \$300,000 or more. The legislation provides that the State shall have a verifiable ten percent (10%) goal for participation by minority businesses in the total value of work for each project for which a contract or contracts are awarded. These requirements are published to accomplish that end.

SECTION A: INTENT

It is the intent of these guidelines that the State of North Carolina, as awarding authority for construction projects, and the contractors and subcontractors performing the construction contracts awarded shall cooperate and in good faith do all things legal, proper and reasonable to achieve the statutory goal of ten percent (10%) for participation by minority businesses in each construction project as mandated by GS 143-128.2. Nothing in these guidelines shall be construed to require contractors or awarding authorities to award contracts or subcontracts to or to make purchases of materials or equipment from minority- business contractors or minority-business subcontractors who do not submit the lowest responsible, responsive bid or bids.

SECTION B: DEFINITIONS

1. Minority - a person who is a citizen or lawful permanent resident of the United States and who is:
 - a. Black, that is, a person having origins in any of the black racial groups in Africa;
 - b. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
 - c. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
 - d. American Indian, that is, a person having origins in any of the original peoples of North America; or
 - e. Female
2. Minority Business - means a business:
 - a. In which at least fifty-one percent (51%) is owned by one or more minority persons, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is owned by one or more minority persons or socially and economically disadvantaged individuals; and
 - b. Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.
3. Socially and economically disadvantaged individual - means the same as defined in 15 U.S.C. 637. "Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities". "Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged".
4. Public Entity - means State and all public subdivisions and local governmental units.
5. Owner - The State of North Carolina, through the Agency/Institution named in the contract.
6. Designer - Any person, firm, partnership, or corporation, which has contracted with the State of North Carolina to perform architectural or engineering, work.
7. Bidder - Any person, firm, partnership, corporation, association, or joint venture seeking to be awarded a public contract or subcontract.

8. Contract - A mutually binding legal relationship or any modification thereof obligating the seller to furnish equipment, materials or services, including construction, and obligating the buyer to pay for them.
9. Contractor - Any person, firm, partnership, corporation, association, or joint venture which has contracted with the State of North Carolina to perform construction work or repair.
10. Subcontractor - A firm under contract with the prime contractor or construction manager at risk for supplying materials or labor and materials and/or installation. The subcontractor may or may not provide materials in his subcontract.

SECTION C: RESPONSIBILITIES

1. Office for Historically Underutilized Businesses, Department of Administration (hereinafter referred to as HUB Office).

The HUB Office has established a program, which allows interested persons or businesses qualifying as a minority business under G.S. 143-128.2, to obtain certification in the State of North Carolina procurement system. The information provided by the minority businesses will be used by the HUB Office to:

- a. Identify those areas of work for which there are minority businesses, as requested.
- b. Make available to interested parties a list of prospective minority business contractors and subcontractors.
- c. Assist in the determination of technical assistance needed by minority business contractors.

In addition to being responsible for the certification/verification of minority businesses that want to participate in the State construction program, the HUB Office will:

- (1) Maintain a current list of minority businesses. The list shall include the areas of work in which each minority business is interested.
- (2) Inform minority businesses on how to identify and obtain contracting and subcontracting opportunities through the State Construction Office and other public entities.
- (3) Inform minority businesses of the contracting and subcontracting process for public construction building projects.
- (4) Work with the North Carolina trade and professional organizations to improve the ability of minority businesses to compete in the State construction projects.
- (5) The HUB Office also oversees the minority business program by:
 - a. Monitoring compliance with the program requirements.
 - b. Assisting in the implementation of training and technical assistance programs.
 - c. Identifying and implementing outreach efforts to increase the utilization of minority businesses.
 - d. Reporting the results of minority business utilization to the Secretary of the Department of Administration, the Governor, and the General Assembly.

2. State Construction Office

The State Construction Office will be responsible for the following:

- a. Furnish to the HUB Office a minimum of twenty-one days prior to the bid opening the following:
 - (1) Project description and location;
 - (2) Locations where bidding documents may be reviewed;
 - (3) Name of a representative of the owner who can be contacted during the advertising period to advise who the prospective bidders are;
 - (4) Date, time and location of the bid opening.
 - (5) Date, time and location of prebid conference, if scheduled.
- b. Attending scheduled prebid conference, if necessary, to clarify requirements of the general

statutes regarding minority-business participation, including the bidders' responsibilities.

- c. Reviewing the apparent low bidders' statutory compliance with the requirements listed in the proposal, that must be complied with, if the bid is to be considered as responsive, prior to award of contracts. The State reserves the right to reject any or all bids and to waive informalities.
- d. Reviewing of minority business requirements at Preconstruction conference.
- e. Monitoring of contractors' compliance with minority business requirements in the contract documents during construction.
- f. Provide statistical data and required reports to the HUB Office.
- g. Resolve any protest and disputes arising after implementation of the plan, in conjunction with the HUB Office.

3. Owner

Before awarding a contract, owner shall do the following:

- a. Develop and implement a minority business participation outreach plan to identify minority businesses that can perform public building projects and to implement outreach efforts to encourage minority business participation in these projects to include education, recruitment, and interaction between minority businesses and non-minority businesses.
- b. Attend the scheduled prebid conference.
- c. At least 10 days prior to the scheduled day of bid opening, notify minority businesses that have requested notices from the public entity for public construction or repair work and minority businesses that otherwise indicated to the Office for Historically Underutilized Businesses an interest in the type of work being bid or the potential contracting opportunities listed in the proposal. The notification shall include the following:
 1. A description of the work for which the bid is being solicited.
 2. The date, time, and location where bids are to be submitted.
 3. The name of the individual within the owner's organization who will be available to answer questions about the project.
 4. Where bid documents may be reviewed.
 5. Any special requirements that may exist.
- d. Utilize other media, as appropriate, likely to inform potential minority businesses of the bid being sought.
- e. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.
- f. Review, jointly with the designer, all requirements of G.S. 143-128.2(c) and G.S. 143-128.2(f) – (i.e. bidders' proposals for identification of the minority businesses that will be utilized with corresponding total dollar value of the bid and affidavit listing good faith efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce) - prior to recommendation of award to the State Construction Office.
- g. Evaluate documentation to determine good faith effort has been achieved for minority business utilization prior to recommendation of award to State Construction Office.
- h. Review prime contractors' pay applications for compliance with minority business utilization commitments prior to payment.
- i. Make documentation showing evidence of implementation of Owner's responsibilities available for review by State Construction Office and HUB Office, upon request.

4. Designer

Under the single-prime bidding, separate prime bidding, construction manager at risk, or alternative contracting method, the designer will:

- a. Attend the scheduled prebid conference to explain minority business requirements to the prospective bidders.
- b. Assist the owner to identify and notify prospective minority business prime and subcontractors of potential contracting opportunities.
- c. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.

- d. Review jointly with the owner, all requirements of G.S. 143-128.2(c) and G.S.143-128.2(f) – (i.e. bidders’ proposals for identification of the minority businesses that will be utilized with corresponding total dollar value of the bid and affidavit listing Good Faith Efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce) - prior to recommendation of award.
 - e. During construction phase of the project, review “MBE Documentation for Contract Payment” – (Appendix E) for compliance with minority business utilization commitments. Submit Appendix E form with monthly pay applications to the owner and forward copies to the State Construction Office.
 - f. Make documentation showing evidence of implementation of Designer’s responsibilities available for review by State Construction Office and HUB Office, upon request.
5. Prime Contractor(s), CM at Risk, and Its First-Tier Subcontractors
Under the single-prime bidding, the separate-prime bidding, construction manager at risk and alternative contracting methods, contractor(s) will:

- a. Attend the scheduled prebid conference.
- b. Identify or determine those work areas of a subcontract where minority businesses may have an interest in performing subcontract work.
- c. At least ten (10) days prior to the scheduled day of bid opening, notify minority businesses of potential subcontracting opportunities listed in the proposal. The notification will include the following:
 - (1) A description of the work for which the subbid is being solicited.
 - (2) The date, time and location where subbids are to be submitted.
 - (3) The name of the individual within the company who will be available to answer questions about the project.
 - (4) Where bid documents may be reviewed.
 - (5) Any special requirements that may exist, such as insurance, licenses, bonds and financial arrangements.

If there are more than three (3) minority businesses in the general locality of the project who offer similar contracting or subcontracting services in the specific trade, the contractor(s) shall notify three (3), but may contact more, if the contractor(s) so desires.

- d. During the bidding process, comply with the contractor(s) requirements listed in the proposal for minority participation.
- e. Identify on the bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing good faith efforts as required by G.S. 143-128.2(c) and G.S. 143-128.2(f).
- f. Make documentation showing evidence of implementation of PM, CM-at-Risk and First-Tier Subcontractor responsibilities available for review by State Construction Office and HUB Office, upon request.
- g. Upon being named the apparent low bidder, the Bidder shall provide one of the following: (1) an affidavit (Affidavit C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal; (2) if the percentage is not equal to the applicable goal, then documentation of all good faith efforts taken to meet the goal. Failure to comply with these requirements is grounds for rejection of the bid and award to the next lowest responsible and responsive bidder.
- h. The contractor(s) shall identify the name(s) of minority business subcontractor(s) and corresponding dollar amount of work on the schedule of values. The schedule of values shall be provided as required in Article 31 of the General Conditions of the Contract to facilitate payments to the subcontractors.
- i. The contractor(s) shall submit with each monthly pay request(s) and final payment(s), “MBE Documentation for Contract Payment” – (Appendix E), for designer’s review.
- j. During the construction of a project, at any time, if it becomes necessary to replace a minority business subcontractor, immediately advise the owner, State Construction Office, and the Director of the HUB Office in writing, of the circumstances involved. The prime contractor

shall make a good faith effort to replace a minority business subcontractor with another minority business subcontractor.

- k. If during the construction of a project additional subcontracting opportunities become available, make a good faith effort to solicit subbids from minority businesses.
- l. It is the intent of these requirements apply to all contractors performing as prime contractor and first tier subcontractor under construction manager at risk on state projects.

6. Minority Business Responsibilities

While minority businesses are not required to become certified in order to participate in the State construction projects, it is recommended that they become certified and should take advantage of the appropriate technical assistance that is made available. In addition, minority businesses who are contacted by owners or bidders must respond promptly whether or not they wish to submit a bid.

SECTION 4: DISPUTE PROCEDURES

It is the policy of this state that disputes that involves a person's rights, duties or privileges, should be settled through informal procedures. To that end, minority business disputes arising under these guidelines should be resolved as governed under G.S. 143-128(g).

SECTION 5: These guidelines shall apply upon promulgation on state construction projects. Copies of these guidelines may be obtained from the Department of Administration, State Construction Office, (physical address) 301 North Wilmington Street, Suite 450, NC Education Building, Raleigh, North Carolina, 27601-2827, (mail address) 1307 Mail Service Center, Raleigh, North Carolina, 27699-1307, phone (919) 807-4100, Website: www.nc-sco.com

SECTION 6: In addition to these guidelines, there will be issued with each construction bid package provisions for contractual compliance providing minority business participation in the state construction program.

MINORITY BUSINESS CONTRACT PROVISIONS(CONSTRUCTION)

APPLICATION:

The **Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts** are hereby made a part of these contract documents. These guidelines shall apply to all contractors regardless of ownership. Copies of these guidelines may be obtained from the Department of Administration, State Construction Office, (physical address) 301 North Wilmington Street, Suite 450, NC Education Building, Raleigh, North Carolina, 27601-2827, (mail address) 1307 Mail Service Center, Raleigh, North Carolina, 27699-1307, phone (919) 807-4100, Website: <http://www.nc-sco.com>

MINORITY BUSINESS SUBCONTRACT GOALS:

The goals for participation by minority firms as subcontractors on this project have been set at 10%.

The bidder must identify on its bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit (Affidavit A) listing good faith efforts **or** affidavit (Affidavit B) of self-performance of work, if the bidder will perform work under contract by its own workforce, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f).

The lowest responsible, responsive bidder must provide Affidavit C, that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal.

OR

Provide Affidavit D, that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, **with documentation of Good Faith Effort, if the percentage is not equal to the applicable goal.**

OR

Provide Affidavit B, which includes sufficient information for the State to determine that the bidder does not customarily subcontract work on this type project.

The above information must be provided as required. Failure to submit these documents is grounds for rejection of the bid.

MINIMUM COMPLIANCE REQUIREMENTS:

All written statements, affidavits or intentions made by the Bidder shall become a part of the agreement between the Contractor and the State for performance of this contract. Failure to comply with any of these statements, affidavits or intentions, or with the minority business Guidelines shall constitute a breach of the contract. A finding by the State that any information submitted either prior to award of the contract or during the performance of the contract is inaccurate, false or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the State whether to terminate the contract for breach.

In determining whether a contractor has made Good Faith Efforts, the State will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts. Good Faith Efforts include:

- (1) Contacting minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor or available on State or local government maintained lists at least 10 days before the bid or proposal date and notifying them of the nature and scope of the work to be performed.
- (2) Making the construction plans, specifications and requirements available for review by prospective minority businesses or providing these documents to them at least 10 days before the bid or proposals are due.
- (3) Breaking down or combining elements of work into economically feasible units to facilitate minority participation.
- (4) Working with minority trade, community, or contractor organizations identified by the Office for Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- (5) Attending any prebid meetings scheduled by the public owner.
- (6) Providing assistance in getting required bonding or insurance or providing alternatives to bonding or insurance for subcontractors.
- (7) Negotiating in good faith with interested minority businesses and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- (8) Providing assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- (9) Negotiating joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- (10) Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

APPENDIX E

MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: _____

Address & Phone: _____

Project Name: UNCW Suites, Service & Graham Hewlett Connector Roof Replacement

Pay Application #: _____ Period: _____

The following is a list of payments made to Minority Business Enterprises on this project for the above- mentioned period.

MBE FIRM NAME	* INDICATE TYPE OF MBE	AMOUNT PAID THIS MONTH	TOTAL PAYMENTS TO DATE	TOTAL AMOUNT COMMITTED

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A), American Indian (I), Female (F), Social and Economically Disadvantage (D)

Date: _____ Approved/Certified By: _____
Name

Title

Signature

SUBMIT WITH EACH PAY REQUEST & FINAL PAYMENT

(Revised 3/14/2003)

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Name: **UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT**
- B. Project Address: 5220 Suite Service Loop Wilmington, North Carolina 28403
- C. Owner: UNC Wilmington
- D. Engineer: The Contract Documents, dated MM-dd-yyyy, were prepared by REI Engineers, Inc.
- E. This work includes the provision of labor, material, equipment, supervision and administration to integrate the work outlined in these specifications into the total building system such that no leakage into the system occurs. In general, the scope of work in the Base Bid includes:
- F. **University Suites- O, P, Q, R, S, T, U**
 - 1. Remove existing roof system down to the structural deck.
 - 2. Abandon existing drain with plug. Provide thru wall scupper as detailed at each drain location. Tie downspouts to existing plumbing stub as detailed. Repair landscaping to original condition.
 - 3. Provide temporary roof/vapor retarder.
 - 4. Provide base layer of insulation.
 - 5. Provide taper insulation system and cover board.
 - 6. Provide roof membrane.
 - 7. Provide premanufactured fascia system.
 - 8. Provide walkpad where shown on drawings.
 - 9. Provide new roof hatch
- G. Services Building:
 - 1. Remove existing roof system to the structurally sloped concrete roof deck.
 - 2. Provide temporary roof/vapor retarder.
 - 3. Provide insulation as shown in details.
 - 4. Provide roof membrane.

5. Provide prefabricated fascia specified.
 6. Provide walkpad as shown on drawings.
 7. Provide new roof hatch.
- H. Graham Hewlett Connector:
1. Remove existing roof to the steel deck. Existing copper collector heads shall remain.
 2. Provide new 5/8" gypsum thermal barrier over the deck.
 3. Fasten base layer of insulation.
 4. Provide adhered tapered insulation system.
 5. Provide cover board.
 6. Provide roof membrane.
 7. Provide walkpad where shown on drawings.
 8. Repoint mortar joints of precast concrete coping to remain.
- I. Provide electrical, plumbing, mechanical, and other related trade work necessary to facilitate project operations. Relocate or raise conduit, HVAC equipment, curbs, and/or plumbing necessary to comply with the requirements of these documents and conform to the requirements of the State Building Code.
1. Conduct construction operations so that heat, air conditioning, ventilation, electrical, telephone, gas, water, sanitary, storm sewer, and any other service required for the building operations are maintained at all times during normal working hours. Any shutdowns or interruptions shall be coordinated with and approved by the owner.
- J. General requirements and specific recommendations of the material manufacturers are included as part of these specifications. The manufacturers' specifications are the minimum standards required for the completed systems. Where specific items listed herein improve the standards required by the manufacturers, they take precedence where their compliance does not affect the manufacturers' guarantee or warranty provisions.
- K. Act as the Project Expeditor and coordinate work and schedules of others hired.
- L. Roof System Manufacturer shall provide a 20 Year NDL Roof System Warranty.
- M. Provide Contractors Warranty provided in this project manual.

1.2 ASBESTOS CONTAINING ROOFING MATERIALS (ACRM):

- A. Sample Testing Results:

- B. It is the intention of these specifications that no asbestos bearing materials be incorporated into the work. In the event the contractor determines unanticipated asbestos bearing materials present in the building components, stop work in the affected area, notify the Engineer and Owner, and provide temporary protection as required. Costs incurred due to the presence of hidden or unanticipated asbestos bearing materials will be authorized by Change Order to this contract.

1.3 REFERENCE STANDARDS

- A. CSI/CSC MF - Masterformat; 2016.

1.4 CONTRACT

- A. Project constructed under a single prime general construction contract between Owner and Contractor.

1.5 WORK UNDER OTHER CONTRACTS

- A. Separate Contract: Owner may award a separate contract for performance of certain construction operations at Project site.
 - 1. None
- B. Cooperate with separate contractors so work on those contracts are carried out smoothly without interfering with or delaying Work under this Contract.

1.6 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and CSI/CSC MF numbering system.
 - 1. Section Identification: The Specifications use section numbers and titles to cross-reference Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Interpret words and meanings as appropriate. Infer words implied, but not stated, as the sense requires. Interpret singular words as plural and plural words as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative mood and streamlined language are generally used in the Specifications. Perform requirements expressed in the imperative mood. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall" "shall be" or "shall comply with" depending on the context, are implied where a colon (:) is used within a sentence or phrase.

END OF SECTION

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for work sequence, work restrictions, occupancy requirements and use of premises.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

- A. Background Checks: Provide background checks for employees anticipated to work on-site during the project.

1.4 WORK SEQUENCE

- A. Construct Work in phases to accommodate the Owner's use; if applicable, of the premises during the construction period; coordinate the construction schedule and operations with the Owner and Engineer.
- B. Construct the Work in phases to provide for public convenience. Do not close off public use of facility until completion of one phase of construction provides alternative usage.
- C. Schedule construction in such a manner that once work has commenced on one facility, the work force to remain at that facility continuously each workday through final completion at that facility.

1.5 WORK RESTRICTIONS

- A. Work hours generally performed during normal business hours.
 - 1. Provide notification to the Owner and Engineer 48 hours in advance of work outside of normal business hours. No work allowed without prior notification and authorization.

1.6 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy:
 - 1. Owner occupies the premises during construction to conduct his normal operations. Cooperate with Owner in construction operations to minimize conflict and to facilitate Owner usage.
 - 2. Conduct operations as to ensure the least inconvenience and the greatest amount of safety and security for the Owner, building occupants, and the general public.

3. Control noise from operations so that building occupants are not affected.

1.7 SECURITY

- A. Restrict the access of persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the site of the work.
- B. Maintain an accurate record of the names and identification of visitors entering upon the Owner's property in connection with the work of this contract, including times of entering and times of leaving, and submit a copy of the record to the Owner weekly.
- C. Background Checks: No persons/personnel allowed on site without the following background checks: Nationwide, Sex Offender check, Social Security Number check. Provide this information to the Engineer/Owner 5 business days prior to the scheduled access for each person. Owner's decision on acceptability of personnel. Each person is required to wear a badge with name, photograph, and company name. Ensure background checks for persons are submitted to Owner and those persons denied access are not allowed on-site.

1.8 USE OF SITE

- A. Limit use of premises and confine construction operations to work in areas indicated and approved by Engineer and Owner. Do not disturb portions of site beyond areas in which the Work is indicated.
 1. Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 2. Perform Work in a way that does not restrict parking lots or other locations outside the work area from the facility. Maintain safe access for vehicles
 3. Move stored materials and equipment that interfere with operations of the Owner.
 4. Protect surface improvements including pavements, curbs, sidewalks, lawn and landscaped areas, utilities, etc.
 5. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to surface improvements resulting from, or attributable to, the work operation.
 - a. Repair damaged concrete by replacing full sections of concrete between control/expansion joints.
 - b. Fill ruts in grass areas and grade to original conditions. Provide grass seed and straw.
 - c. Replace disturbed landscaping in mulched or natural areas.
- B. Transportation Facilities

1. Truck and equipment access:
 - a. Avoid traffic conflict with vehicles of the Owner's employees and customers and avoid over-loading of street and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the designated areas.
 - b. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.
2. Contractor's vehicles:
 - a. Require contractor's vehicles, vehicles belonging to employees of the contractor, and other vehicles entering the Owner's property in performance of the work the contract, to use only the designated access route.
 - b. Do not permit such vehicles to park on street or other area of the Owner's property except in the designated area.

1.9 USE OF BUILDING

- A. Maintain building in a weathertight condition throughout construction period.
- B. Take precaution against injuries to persons or damage to property.
- C. Protect building, its contents, and its occupants during construction period.
- D. Do not overload or permit the structure to be loaded with such weights that endanger its safety or to cause excessive deflection.
 1. Equally distribute materials placed on the roof.
- E. Properly secure materials or equipment placed on roof to prevent blow off during wind events. Ensure materials or equipment on roof does not interfere with roof drainage.
- F. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to the building and its contents resulting from, or attributable to, the work operation.
- G. Indoor Air Quality:
 1. Coordinate with the facility personnel to identify the area where work is performed daily and what HVAC equipment and personnel in the building may be affected by the work.
 2. Work with facility personnel to prevent odors or fumes from entering the building or where found to not be practical due to the work area, HVAC equipment limitations or other reasons; coordinate with facility personnel to have occupants relocated to an area of the building not affected by the work.
 3. When possible to safely shut down and seal HVAC equipment; as determined by the facility personnel, coordinate with facility personnel to have mechanical units affected by the planned work area and air intakes properly closed and sealed. After closing of mechanical units and air intakes, cover units and intakes with 6-mil polyethylene sheeting taped secure. Remove polyethylene sheeting before coordinating restart of units and intakes.

4. Provide box carriage fans during work to move and circulate air away from intakes and units.
5. Where HVAC equipment is required to remain operational during work, coordinate with facility personnel to cover air intakes with charcoal filters prior to beginning work.
6. When starting work using materials which have odors or emit fumes, communicate with facility personnel within the building in the area of the work to determine if fumes or odors are being experienced. If fumes or odors are experienced, stop work until the cause is determined and remediated or occupants can be moved to an area not affected by the work.

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements governing allowances.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section, including but not limited to:

1. Section 04 05 24 - Masonry Repointing
2. Section 06 10 00 - Rough Carpentry

1.3 ABBREVIATIONS

A. Abbreviations for typical units of measurement:

1. Square Foot (SF)
2. Square Yard (SY)
3. Cubic Foot (CF)
4. Board Foot (BF)
5. Linear Foot (LF)
6. Each (EA)
7. Tonnage (TON)

1.4 CONTINGENCY ALLOWANCE

- A. Include the specified contingency allowance in the base bid.
- B. Credit unused portion remaining at the completion of the contract back to the Owner.
- C. The Owner reserves the right to modify the contingency allowance prior to award of Contract.

1.5 QUANTITY ALLOWANCES

- A. Include the specified quantity allowances in the base bid. Use the unit price submitted on the Bid Form to compute the quantity allowances. The quantities indicated on the Bid Form are estimated quantities only for the purpose of comparing bids. Compensation for the unit price bid made for the exact quantity of work performed under the unit price item. Deductive amounts of unit price work included in the Contract Sum are calculated at 100% of the quoted add unit price.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Contingency Allowance: N/A.
- B. Quantity Allowances:
 - 1. Replace 100 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 - Rough Carpentry.

END OF SECTION

SECTION 01 22 00

UNIT PRICES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for unit prices.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section, including but not limited to:

1. Section 06 10 00 - Rough Carpentry

1.3 DEFINITION

A. Unit price is an amount proposed by Bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 ABBREVIATIONS

A. Abbreviations for typical units of measurement:

1. Square Foot (SF)
2. Square Yard (SY)
3. Cubic Foot (CF)
4. Board Foot (BF)
5. Linear Foot (LF)
6. Each (EA)
7. Tonnage (TON)

1.5 UNIT PRICE MEASUREMENT

A. Prior to performing work under a unit price as specified herein, notify the Engineer to allow for measurement of the actual quantities of work. Work performed under these items without prior approval and measurement is at the Contractor's expense.

B. Maintain a daily log including visual documentation (i.e. digital photographs) showing dates, location and exact quantities of unit price work.

- C. Owner and Engineer reserve 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 party.

1.6 UNIT PRICE PAYMENT

- A. Include in unit prices costs associated with performing the unit price work including but not limited to labor, material, equipment, insurance, applicable taxes, overhead and profit, bonds, etc.

1.7 UNIT PRICE PERFORMANCE

- A. Install unit price work in accordance with the applicable specification sections and Contract Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Provide a unit price for:
 - 1. Replace Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 - Rough Carpentry.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTAL PROCEDURE

A. General: The Contractor is responsible for providing the submittals to the Engineer. Each submittal is required to be accepted in writing prior to commencement of work.

B. Submission Requirements:

1. Submit required submittals electronically in pdf format to the Engineer for review. The submittals will then be returned electronically to the Contractor with comments. Final submittals require written responses to submittal comments.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below, commencing on Engineers receipt of submittal.

1. Initial Review: Allow 7 work days for initial review of submittals.
2. Allow 7 work days for processing each resubmittal.
3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

D. Identification:

1. Submit as one pdf file with bookmarks for each scheduled item.

E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals and provide letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturers specifications. Include a written explanation of why substitutions should be considered under the appropriate tab.

F. Transmittal: Package submittals appropriately for transmittal. Engineer will discard submittals received from sources other than Contractor. Include Contractors certification stating that information submitted complies with requirements of the Contract Documents.

G. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

1.4 SCHEDULE OF SUBMITTALS

- A. Refer to the applicable specification section for list of submittal requirements for each section.
- B. Submit the following submittal items electronically with a title page and/or pdf bookmark for each submittal item to meet the requirements specified herein:
 - 1. Section 00 52 13 - Copy of Executed Owner/Contractor Agreement along with Certificate of Insurance
 - 2. Section 00 61 13.13: Copy of Executed Performance Bond Form
 - 3. Section 00 61 13.16: Copy of Executed Payment Bond Form
 - 4. Section 00 62 33 - Roof Manufacturers Acknowledgment Form
 - 5. Section 01 14 00 - Work Restrictions
 - 6. Section 01 25 00 - Substitution Procedures
 - 7. Section 01 29 00 - Payment Procedures
 - 8. Section 01 31 00 - Project Management and Coordination
 - 9. Section 01 40 00 - Quality Requirements
 - 10. Section 01 73 00 - Execution Requirements
 - 11. Section 01 77 00 - Closeout Procedures
 - 12. Section 04 05 24 - Masonry Repointing
 - 13. Section 06 10 00 - Rough Carpentry
 - 14. Section 07 22 16 - Roof Insulation
 - 15. Section 07 26 00 - Modified Bitumen Vapor Retarder
 - 16. Section 07 54 00 - Thermoplastic Single Ply Roofing
 - 17. Section 07 62 00 - Sheet Metal Flashing and Trim
 - 18. Section 07 71 19 - Manufactured Gravel Stops and Facias
 - 19. Shop Drawings: Shop drawings or letter stating installation of materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
 - 20. Physical color samples as specified in the applicable specification section.

PART 2 PRODUCTS

2.1 SUBMITTALS

- A. General: Prepare and submit Submittals required herein and by individual Specification Sections.

- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information is specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturers written recommendations.
 - b. Manufacturers product specifications.
 - c. Manufacturers installation instructions.
 - d. Manufacturers catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with recognized trade association standards.
 - i. Compliance with recognized testing agency standards.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Include the following information, as applicable: dimensions, identification of products, fabrication and installation drawings, schedules, coordination requirements and notation of dimensions established by field measurements.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
- D. Samples: Prepare physical units of materials or products, including the following:
1. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 2. Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned.

3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineers sample where so indicated. Attach label on unexposed side.
 4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and component as delivered and installed.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity and used to determine final acceptance of construction associated with each set.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.
 - F. Product Certificates: Prepare written statements on manufacturers letterhead certifying that product complies with requirements.
 - G. Installer Certificates: Prepare written statements on manufacturers letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
 - H. Manufacturer Certificates: Prepare written statements on manufacturers letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
 - I. Material Certificates: Prepare written statements on manufacturers letterhead certifying that material complies with requirements.
 - J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
 - K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
 - L. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software used for calculations. Include page numbers.
 - M. Manufacturer's Instructions: Prepare written or published information that documents manufacturers recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.
 - N. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, and term of the coverage.

PART 3 EXECUTION

3.1 CONTRACTORS REVIEW

- A. Review each submittal, check for compliance with the Contract Documents and note corrections and field dimensions prior to submitting to Engineer.

3.2 ENGINEERS ACTION

- A. Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal item with an action stamp and will mark stamp appropriately to indicate action taken.
- B. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION

SECTION 01 42 00

REFERENCE STANDARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Requirements relating to referenced standards.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

- A. Reference standards are specified in Part 1 of the applicable specification section.
- B. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- C. Comply with the reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- D. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.
- E. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered by Contract Documents by mention or inference otherwise in any reference document.

1.4 BUILDING CODE

- A. Comply with the building code and energy conservation code/standard in effect in North Carolina and current on date of Contract Documents.
 - 1. 2018 North Carolina Building Code
 - 2. 2018 North Carolina Energy Conservation Code

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

- A. NFPA 10 - Standard for Portable Fire Extinguishers; 2022.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.4 USE CHARGES

A. Include in Contract, cost or use charges for temporary facilities which are not chargeable to Owner. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, occupants of testing and inspecting agencies and personnel of authorities having jurisdiction.

1.5 QUALITY ASSURANCE

- A. Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241 .
- B. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70 .
- C. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- D. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures. Instruct personnel in methods and procedures. Post warnings and information.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials or utilize undamaged, previously used materials in serviceable condition if accepted by Engineer. Provide materials suitable for use intended.
- B. Fencing:
 - 1. Safety Fence: Safety orange high density polyethylene fabric with a minimum of 4 feet in height, 15 lbs. per 100 linear feet. Painted steel fence posts with ground anchors and metal tabs stationed often enough to hold the fabric at a minimum height of 3 feet 8 inches tall.
- C. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- D. Water: Potable.
- E. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material with a self-contained or standalone exterior handwashing station.
- F. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- G. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.
- H. Ground Protection Mats: 4 foot by 8 foot, HDPE infused with rubber for traction mats designed to protect landscaping from construction equipment.

PART 3 EXECUTION

3.1 TEMPORARY UTILITIES

- A. Water Service: Water for construction purposes is available from the Owner at no charge. Operate exterior hose bids only with properly fitted handles. Remove at the end of each workday. Repair damage to hose bids or hose bib stems. Do not operate hose bibs with pliers.
- B. Electrical Power Service: Provide portable generators for electrical power requirements.
 - 1. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths do reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

3.2 CONSTRUCTION FACILITIES

- A. Temporary construction facilities include the following:

1. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities. Located facilities at sites approved by Owner. Access inside the facility is not available.
 - a. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 - b. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
 - c. Wash Facilities: Provide adequate hand washing stations.
 - d. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
2. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations at a location approved by the Owner. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Use of Owner's waste disposal facilities is not acceptable.
 - a. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material.

3.3 TEMPORARY BARRIERS, ENCLOSURES AND CONTROLS

- A. Provide temporary barriers and enclosures for protection from exposure, foul weather, construction operations and other activities. Protect buildings and grounds from damages during construction.
- B. Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- C. Provide security controls to protect work and materials at the project site.
- D. Provide fencing to enclose the materials storage and staging area.
- E. Provide and maintain suitable temporary sidewalks, closed passageways, fences, or other structures required by law so as not to obstruct or interfere with traffic in public streets, alley ways, or private right-of-way. Leave an unobstructed way along public and private places for pedestrians and vehicles.
- F. Provide walks over and around all obstructions in public places. Maintain sufficient light and guards to protect persons from injury.
- G. Provide emergency egress from existing occupied areas at all times as required by AHJ. Maintain egress path in compliance with requirements of the applicable building code.

3.4 PROTECTION FACILITIES INSTALLATION

- A. Provide environmental protection by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Provide storm water controls sufficient to prevent flooding from heavy rain.

- C. Protection of materials stored on site.
 - 1. Material storage will be where shown in Contract Drawings.
 - 2. Protect materials stored on the job site from theft and weather related damage.
 - 3. Store as much material in locked trailers as practicable.
 - 4. Place no more material on the job site than is necessary to maintain the work schedule.
 - 5. Do not deliver materials prior than 7 days earlier than work commencing.

3.5 TREE AND PLANT PROTECTION:

- A. Contractors are hereby reminded and cautioned that care shall be exercised to protect trees and plants which are to remain during the progress of the Project. Suitable barriers shall be provided around all trees and plants that are to remain and which are in the construction area and product handling area. All damage to such trees and plants shall be repaired; broken limbs properly and neatly pruned and painted with pruning paint; all trunk damage neatly dressed and painted with pruning paint. Any trees and plants which are excessively damaged shall be replaced in like, kind, size, and species by The Contractor at no additional cost. All work shall be by a recognized and approved nursery.
 - 1. All grading around trees and plants to remain shall be such that the root system shall not be disturbed. Earth shall not be temporarily piled around trees and plants, nor shall earth be graded to the trees and plants above the natural root depth for that particular species.
 - 2. Established trees and plants, which are in the way of construction and which are in the material handling areas, shall be removed and stored for future replanting. The services of a recognized and approved nursery shall be employed to remove the trees and plants and prepare them for storage. Removed trees and plants shall be properly balled and burlapped in accordance with their size. During the time of storage, they shall be properly watered and cared for in accordance with the instructions from the nursery. After the construction work is completed, the stored trees and plants shall be replanted, and those trees and plants not replanted shall be disposed of as directed by the Owner.

3.6 CRANES, HOISTS AND LIFTING

- A. Where cranes and other lifting equipment are required, develop and maintain a plan to execute the work in a safe manner including the following items at a minimum:
 - 1. Erection, climbing and dismantling process
 - 2. Inspection process for equipment and rigging
 - 3. Exclusion zones
 - 4. Maintenance processes
 - 5. Identification of Qualified/Competent persons
 - 6. Lifting plan
 - 7. Process for identifying and working around aerial hazards

8. Signalmen communication
 9. Working around energized lines
 10. Ground conditions and underground hazards
- B. Ensure that cranes and lifting equipment are certified for use by a Qualified/Competent person prior to first use and annually (at a minimum).
 - C. Ensure that cranes and lifting equipment are inspected as required by a third party Qualified/Competent person.
 - D. Provide ground protection mats over landscaped areas beneath lifts.
 - E. Do not operate or travel lifts over curbs or sidewalks. Where necessary to travel equipment over curbs or sidewalks, provide adequate protection to prevent damage.

3.7 PROJECT SIGNAGE

- A. Provide temporary signs to provide information to building occupants directing them away from construction operations.
- B. Provide signage inside adjacent buildings alerting occupants of the Work Area.

3.8 VEHICULAR ACCESS AND PARKING

- A. Parking for vehicles available only in the approved Set-up and Staging area. No other vehicle parking on site is allowed.
- B. Owner Personnel vehicles will be removed from the construction area prior to the start of construction.

3.9 TRAFFIC CONTROLS

- A. Obtain and erect street/parking lot signage as necessary to divert traffic away from staging areas, work area, etc. Coordinate signage requirements with the Owner and Engineer.
- B. Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes procedural requirements for cutting and patching.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

- A. Engineer's Acceptance: Obtain acceptance of cutting and patching before cutting and patching. Acceptance does not waive right to later require replacement of unsatisfactory work.
- B. Structural Elements: Do not cut and patch structural elements in a manner that changes their load-carrying capacity or load-deflection ratio. Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations sealed by a licensed Engineer in the state of the project showing integration of reinforcement with original structure.
- C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.
- D. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that change their load-carrying capacity that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.
- E. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that, in the Engineer's opinion, reduces the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- F. Cutting and Patching Conference: If extensive cutting and patching is required, before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, match the visual and functional performance of existing materials.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces and conditions under which cutting and patching are performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete or Masonry: Cut using an abrasive saw or a diamond-core drill.
 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 5. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that eliminate evidence of patching and refinishing.
 3. Floors and Walls: Where walls or partitions that are removed extend from one finished area into another, patch and repair floor and wall surfaces. Provide an even surface of uniform finish, color, texture, and appearance. Replace floor and wall coverings, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over unbroken surface containing the patch to the nearest joint or delineation between materials. Provide additional coats until patch blends with adjacent surfaces.
 4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.
 5. Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
- D. Renovation Project Procedures
1. Materials: As specified in technical sections, match existing products and Work.

2. Employ skilled and experienced installer to perform cutting and patching.
 3. Remove, cut and patch materials in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
 4. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with a neat transition to adjacent finishes.
 5. Where work abuts or aligns with existing construction, provide a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.
 6. When a smooth transition with Work is not possible, submit recommendation to Engineer for review. Terminate existing surface along a straight line at a natural line of division when possible.
 7. Patch or replace portions of surfaces, which are damaged, lifted, discolored or showing other imperfections.
 8. Finish surfaces as specified in individual Product sessions.
 9. Cutting and patching completed in a manner such that the patched surfaces are compatible with the surfaces in which the repairs were made, both structurally and aesthetically as deemed appropriate by the Project Engineer.
- E. Restoration: Restore existing work, including concealed work not indicated or specified to be modified, and which is damaged or otherwise affected by construction operations, to a condition which existed before the work was commenced. Use workers skilled in reconstruction and alteration work where construction adjoins, connects to, or abuts existing work. Join Work in such a manner as to make the joining as inconspicuous as possible. Obvious patching of damaged Work is not acceptable. At the completion, ensure that the buildings and grounds are in first-class condition within the intent of these specifications, with parts well joined as required, connections completed, and facilities in working condition.

3.4 CLEANING

- A. Clean areas and spaces where cutting and patching is performed where required for construction or used as access.
- B. Remove paint, mortar, oils, putty and similar materials.
- C. Leave work in an acceptable completed condition.

END OF SECTION

SECTION 04 05 24

MASONRY REPOINTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Repointing of damaged or deteriorated mortar joints in precast concrete coping to remain at Graham Hewlett Connector Roof.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections apply to this Section:

1.3 PROJECT CONDITIONS

- A. Protect newly pointed joints from rain, until pointed joints are sufficiently hard enough to prevent damage.
- B. Cold Weather Protection:
 - 1. Utilize methods of protection when repointing in freezing temperatures.
 - 2. Comply with applicable sections of "Recommended Practices for Cold Weather Construction" as published by International Masonry Industry All Weather Council.
 - 3. Maintain surfaces at temperatures to prevent mortar from freezing or causing other damage to mortar.

PART 2 PRODUCTS

2.1 MATERIALS

PART 3 EXECUTION

3.1 REMOVAL OF EXISTING MORTAR JOINTS

- A. Cut out existing mortar joints, both bed and head joints, and remove by means of a toothing chisel or a special pointer's grinder, to a uniform depth of 3/4-inch, or until sound mortar is reached. Take care to not damage edges of existing masonry units to remain.
- B. Remove dust and debris from the joints by brushing, blowing with air or rinsing with water. Do not rinse when temperature is below freezing.

3.2 INSTALLATION

- A. Prior to application of mortar, dampen joints and allow masonry units to absorb surface water.

- B. Tightly pack mortar into joints in thin layers, approximately 1/4-inch thick maximum.
- C. Allow layer to become "thumbprint hard" before applying next layer.
- D. Pack final layer flush with surfaces of masonry units. When mortar becomes "thumbprint hard", tool joints.
- E. Tooling of Joints
 - 1. Tool joints with a jointing tool to produce a smooth, compacted, concaved joint.
 - 2. Tool joints in patch work with a jointing tool to match the existing surrounding joints.

3.3 CLEANING

- A. Clean exposed masonry surfaces on completion.
- B. Remove mortar droppings and other foreign substances from wall surfaces.
- C. First wet surfaces with clean water then wash down with a solution of soapless detergent specially prepared for cleaning brick.
- D. Brush with stiff fiber brushes while washing and thereafter hose down with clean water.
- E. Free clean surfaces from traces of detergent, foreign streaks or stains. Protect materials during cleaning operations including adjoining construction.
- F. Use of muriatic acid for cleaning is prohibited.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Rough Carpentry work required to facilitate installation of roof assembly including:
 - a. Provide pressure treated rough carpentry.
 - b. Resecure rough carpentry to remain in place.
 - c. Replace damaged, rotted or deteriorated rough carpentry with pressure treated rough carpentry.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections apply to this Section:
1. Section 07 01 50 - Preparation for Reroofing
 2. Section 07 22 16 - Roof Insulation
 3. Section 07 54 00 - Thermoplastic Single Ply Roofing
 4. Section 07 62 00 - Sheet Metal Flashing and Trim
 5. Section 07 71 19 - Manufactured Gravel Stops and Facias

1.3 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- B. ASTM F1667/F1667M - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples; 2021a.
- C. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.
- D. FM DS 1-49 - Perimeter Flashing; October 2021.
- E. PS 1 - Structural Plywood; 2023.
- F. PS 20 - American Softwood Lumber Standard; 2025.

1.4 DEFINITIONS

- A. Rough Carpentry includes carpentry work not specified as part of other Sections and generally not exposed.
- B. KDAT: Kiln Dried After Treatment.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.6 QUALITY ASSURANCE

- A. Inspect wood for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Reject materials that do not comply.
- B. Rough carpentry to present a smooth, consistent substrate for roof system and flashing installation.
- C. Qualifications of workers: Provide sufficient, competent and skilled carpenters in accordance with accepted practices and supervisors present during execution of the work. Be thoroughly familiar with type of construction involved and related work and techniques specified.
- D. Moisture Content:
 - 1. Kiln Dry After Treatment (KDAT).
 - 2. Do not store or install treated lumber used in the roofing assembly in a manner exposing it to rain.
 - 3. Lumber: 19% or less before being covered/enclosed into roofing assembly.
 - 4. Plywood: 18% or less before being covered/enclosed into roofing assembly.
- E. Label: Bear the stamp of the AWPA Quality Mark, indicating compliance with the requirements of the AWPA Quality Control Program.
- F. Installation of rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.
- G. Install rough carpentry to ensure roof membrane flashing transitions are smooth for positive roof drainage and appearance.
- H. Installation of fasteners and associated materials to secure rough carpentry as detailed and specified.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation

- B. Avoid exposure to precipitation during shipping, storage or installation. If material does become wet, replace or permit to dry prior to covering or enclosure by other roofing, sheet metal or other construction materials (except for protection during construction).
- C. Upon delivery to job site, place materials in area protected from weather.
- D. Do not store seasoned materials in wet or damp portions of building.
- E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Wood Nailers/Blocking:
 - 1. No. 2 or better spruce or southern yellow pine lumber meeting PS 20 standards.
 - 2. Sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing.
 - 3. Dimensions determined by job conditions or as indicated in detail drawings.
- B. Preservative Treatment:
 - 1. ACQ as manufactured for Viance in accordance with AWWA U1 and P5, P26, P27, P28, P29 as appropriate. Use 0.15 lb/cu ft of ACQ in accordance with AWWA U1, Use Catagory UC3B.
 - 2. Ecolife or EL2 as manufactured by Viance. Use 0.019 lb/cu ft of Ecolife or EL2 (+ 0.2 lb/cu ft MCS) in accordance with AWWA U1, Use Catagory UC3B.
 - 3. Micro-Guard as manufactured by Hoover Treated Wood Products, Inc. in accordance with AWWA U1, Use Catagory UC3B.
 - 4. Engineers accepted equivalent.

2.2 FASTENERS

- A. General:
 - 1. Stainless steel or as accepted by Engineer.
 - 2. Fasteners securing pressure treated lumber manufactured for corrosion resistance and exposures associated with pressure treated wood applications.
 - 3. Do not use nails at roof edges to fasten rough carpentry, lumber, plywood, etc. Use screws, anchors, and/or machine bolts to secure rough carpentry at roof perimeter edges.
 - 4. Do not use masonry screws, spikes, and drive-pins to fasten edge/perimeter nailers to concrete. Utilize minimum 1/2-inch diameter anchors or bolts to secure roof edge nailers to concrete.
 - 5. Do not secure or fasten edge/perimeter wood nailers to hollow core concrete masonry; grout concrete masonry units and provide minimum embedment of fasteners to meet anchor manufacturer's installation instructions.

6. Do not secure edge/perimeter wood nailers to brick masonry as the primary securement method.
- B. Nails: 8d (0.135 inch shank diameter), 10d (0.148 inch shank diameter) or 16d (0.162 inch shank diameter), type 316 stainless steel, ring shank nails. meeting ASTM F1667/F1667M. Length to embed into base substrate a minimum 1-1/2 inches.
1. Maze Nails
 2. Anchor Staple and Nail
 3. Simpson Strong Tie
 4. Manasquan Premium Fasteners
 5. Engineers accepted equivalent.
- C. Screws: No. 10 or greater, stainless steel wood screws with flat head, or insulation screws. Length to embed into base substrate a minimum of 1-1/2 inches.
- D. Self-Drilling Screws (for steel deck and light gauge steel framing, 16-ga. or less): #14-13 DP1, pancake or panhead, corrosion resistant, ASTM A153/A153M, FM Approved, self-drilling and self-tapping screw, length to provide minimum 3 pitches of thread through metal thicknesses or 3/4 inch through top flange of steel deck.
1. ITW Buildex Teks
 2. Triangle Fasteners
 3. SFS Intec
 4. Engineers accepted equivalent.
- E. Self-Drilling Screws (for structural steel, greater than 12-gauge): #12-24 DP5 (for steel thickness up to 1/2 inch) or DP4 (for steel thickness from 1/8 inch to 3/8 inch), flat or hex head, corrosion resistant, self-drilling/self-tapping fastener of length to provide minimum 3 pitches of thread through metal thicknesses.
1. ITW Buildex Teks
 2. SFS Intec
 3. Blazer
 4. Engineers accepted equivalent
- F. Epoxy Adhesive Anchor System: Minimum 1/2-inch diameter, corrosion resistant threaded rods supplied by the anchoring system manufacturer, length to provide minimum embedment as required by fastener manufacturer based upon substrate being secured. Screen for substrate provided by fastener manufacturer. Corrosion resistant nut and 1-1/2 inch diameter flat washer.
1. Hilti Hit Hy-10 Plus
 2. Powers Fasteners, Inc. AC100 Anchoring System
 3. Red Head Epcon C6 Fast Curing Epoxy

4. Engineers accepted equivalent
- G. Concrete/Masonry Anchors: Sleeve-Type, or Wedge-Type, Expansion Anchor: Minimum 1/2-inch diameter, Type 304 or 316 Stainless Steel, Expansion Anchor Bolt Assembly of length as required to provided minimum embedment as required by fastener manufacturer based upon substrate being secured but not less than minimum 5-inch embedment into concrete walls or reinforced, grouted CMU walls and provide 1 inch embedment into structural concrete roof deck.
1. Lok/Bolt, Power Bolt or Power-Stud by Powers Fasteners
 2. Redi-Bolt, Dynabolt or Trubolt by Red Head Anchoring Systems
 3. Kwik Bolt by Hilti
 4. Engineers accepted equivalent.
- H. Masonry Screws: 1/4-inch minimum diameter, Type 410 stainless steel with flat head. Length to provide minimum 1 inch embedment into substrate.
1. Tapcon by ITW Buildex,
 2. KWIK-CON II by Hilti
 3. Powers Fasteners Tapper+
 4. Engineers accepted equivalent.
- I. Washers: Fasteners heads for screws, anchors and bolts terminating at the surface of nailers provided with a minimum 5/8-inch diameter, stainless steel or similar corrosion resistance flat washer provided by fastener manufacturer, unless washer is provided from factory as part of the fastener assembly.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect substrates to receive rough carpentry, and ensure substrates are in satisfactory condition prior to installation of rough carpentry.
- B. Inspect rough carpentry including fasteners for material condition before proceeding with installation. Replace deteriorated, rotted, damaged, split, warped, twisted or wet materials.
- C. Remove cants, tapered edge strips, debris, fasteners, etc. that interfere with the installation of rough carpentry.
- D. Notify Engineer in writing of unsatisfactory conditions.
- E. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.2 PREPARATION

- A. Steel/Metal Substrates:

1. Coat steel and metal with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel/metal and treated wood products.
- B. Roof Deck and Structure:
1. Adjust substrates to receive rough carpentry to ensure completed rough carpentry installation is acceptable for roofing and sheet metal flashings.
- C. Epoxy Adhesive Anchor System:
1. Follow adhesive anchor manufacturer's published instructions for preparation and installation.
 2. Pre-drill hole for adhesive anchors.
 3. Use compressed air to blow-out and remove dust and moisture before installing adhesive anchors.

3.3 INSTALLATION

- A. Replace damaged or deteriorated wood blocking, nailers, and curbs.
- B. Re-secure wood nailers at roof edges that are to remain with fastener type and spacing to comply with this section.
- C. Install wood blocking, nailers, and curbs to achieve a minimum 8-inch flashing height above the roof membrane.
- D. Install wood nailers at perimeter roof edges and low-profile expansion joints to match insulation height while maintaining a constant nailer height along perimeter edges.
- E. Install wood blocking and nailers concurrently with roof system installation. Removal of insulation and/or folding back of roof membrane to install wood blocking and nailers at a later date is not acceptable.
- F. Set rough carpentry to required levels and lines, with members plumb, true to line, material cut to fit, and braced to hold work in proper position. Use a belt sander to remove obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.
- G. Fit rough carpentry to other construction, scribe and cope for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction. Install joints between wood for a smooth transition.
- H. Attachment:
1. Consult the fastener manufacturer's published literature and follow the recommended requirements for pre-drilling, cleaning, placement and compatibility of substrates. Follow manufacturer's requirements for fasteners spacing, substrate preparation and substrate embedment where not specified.
 2. Securely attach rough carpentry work to substrate with fasteners anchored to resist the required upward and outward design wind loads.
 3. Meet the requirements herein and that of FM DS 1-49 for rough carpentry attachment.

4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten above nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed; countersink a maximum of one half the board thickness.
5. Install fasteners without splitting wood. Pre-drill where necessary. Replace split or damaged wood to provide acceptable conditions.
6. For anchors, pre-drill concrete and masonry units to prevent damage or cracking of the masonry. Consult fastener manufacturer's published guides. Repair or replace damaged masonry with fasteners re-installed in an acceptable location.
7. Fastener spacing: Staggered in two rows 1/3 the board width when board is wider than 6 inches and installed within 3 to 4 inches of each end.
 - a. Nails: Securing wood to wood spaced as indicated below with two nails installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints. Do not utilize nails at roof edges, utilize screws.
 - 1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.
 - b. Screws: Securing wood to wood spaced as indicated below with two screws installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
 - 1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.
 - c. Self-Drilling Screws: Securing wood to steel spaced as indicated below with one screw within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
 - 1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.
 - d. Epoxy Adhesive Anchors System: Spaced as indicated below, staggered and an additional fastener within 3 to 4 inches of each end of nailer to prevent boards from twisting at board joints.
 - 1) Perimeter (Zone 2) spacing 48 inches max and Corner (Zone 3) spacing 24 inches max.
 - e. Concrete/Masonry Anchors: Spaced as indicated below and an additional fastener within 3 to 4 inches of each end of nailer to prevent boards from twisting at board joints.
 - 1) Perimeter (Zone 2) spacing 48 inches max. and Corner (Zone 3) spacing 24 inches max.
 - f. Masonry Screws: Securing wood to concrete or masonry units as indicated below with fasteners installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints. Do not utilized at perimeter roof edges.

- 1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.
8. Plywood Sheathing Securement: Secure at 12 inches on center in Perimeter (Zone 2) and 6 inches on center in Corner (Zone 3) staggered each direction.
 - I. Select fasteners of size and length that are not exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.
 - J. Thickness of wood nailers flush with adjacent insulation and other materials. Install additional fasteners to ensure nailers are flush.
 - K. Unless otherwise detailed, install plywood used as blocking or shim below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.
 - L. Do not utilize wood nailers at roof perimeters, expansion joints, roof area dividers, etc. less than 3 feet long.
 - M. When multiple nailers are installed stacked two high or more, offset nailers no less than 12" such that joints at nailer end do not line-up vertically.
 - N. Fasten each end of nailers with additional fasteners to ensure a smooth transition at butted joints, and to prevent warping and/or twisting.
 - O. Shims:
 1. Provide plywood and lumber shims as required for the specified height and thickness.
 2. Shims to make full contact with stacked rough carpentry. Partial shim contact, and small shim pieces spaced apart are not acceptable.
 - P. Curbs:
 1. Adjust wood curbs to support rooftop piping, ducts, equipment, etc.
 2. Raise equipment to provide required flashing height for roofing.

3.4 CLEANING

- A. Ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.
- B. Clean the site and building of saw dust from lumber, fasteners and other debris.
- C. Repair or replace damages to the building, grounds, equipment and site to meet pre-construction conditions, as accepted by the Owner.

END OF SECTION

SECTION 07 01 50

PREPARATION FOR REROOFING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Complete preparatory work prior to roof installation including but not limited to:
 - a. Removal of roof assemblies down to the steel deck or concrete deck.
 - b. Raising of mechanical units and/or HVAC units to meet the required minimum flashing height.
 - c. Installation and/or modification of through wall primary scuppers.
 - d. Under roof deck survey

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections apply to this Section:

1. Section 06 10 00 - Rough Carpentry
2. Section 07 22 16 - Roof Insulation
3. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.3 DEFINITIONS

- A. Removal: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain property of the Owner.
- B. Existing to remain: Protect construction indicated to remain against damage and soiling during demolition. When accepted by Engineer, items may be removed to a suitable, protected storage location during demolition, cleaned and reinstalled in their original locations.
- C. Material ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished items become the Contractor's property. Remove demolished items from the site.

1.4 REFERENCE STANDARDS

1.5 SUBMITTALS

1.6 EXISTING ROOF ASSEMBLIES

- A. Refer to Contract Drawings for existing roof system composition.

1.7 QUALITY ASSURANCE

- A. Qualifications: Previous experience removing roof systems.
- B. Requirements: Comply with governing EPA regulations and hauling/disposal regulations of authorities having jurisdiction.

1.8 SCHEDULING

- A. Do not disrupt Owner's operations during demolition. Provide 72 hours notification to Owner of activities that affect Owner's operations.

1.9 WARRANTIES

- A. Repair or replace damage to existing items under warranty with materials acceptable to the Warrantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 EXAMINATION

- A. Survey conditions to determine extent of demolition.
- B. Record the conditions of items to be removed/reinstalled and items to be removed/salvaged.
- C. Do not remove elements that result in structural deficiency or collapse the structure or adjacent structures during demolition.
- D. Inspect substrate for soundness and notify Engineer in writing of deficiencies. Commencement of work signifies acceptance of site conditions.

3.2 PREPARATION

- A. Do not begin demolition until utilities have been disconnected/sealed and have been verified as such in writing.
- B. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner and authorities having jurisdiction.
- C. Provide safe conditions for pedestrians. Erect temporary protection, walkways, fences, railings and canopies as required by OSHA and other governing authorities.
- D. Provide protection for adjacent building, appurtenances and landscaping to remain. Erect temporary fencing around trees to remain.
- E. Provide temporary weather protection as required to prevent water leakage and damaged to exterior or interior of adjacent structures.

3.3 UTILITIES/SERVICES

- A. Maintain utilities that are to remain in service and protect them against damage during selective site demolition unless authorized in writing by the Owner and authorities having jurisdiction.

1. Locate conduits and equipment attached to the underside of the decking prior to reroofing. Do not disturb conduits or interior components/equipment with insulation fasteners.
2. If utilities serving occupied portions of the site are shut down, provide temporary services.
3. Provide 72 hours' notice to Owner if shut down is required.
4. Where services are removed, relocated or abandoned, provide necessary bypass connections to remaining occupied buildings and areas.

3.4 POLLUTION CONTROLS

- A. Use water, mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with local EPA regulations.
 1. Do not use water where there is potential for damage to occur or where hazardous conditions, ice or flooding are created.

3.5 UNDER ROOF DECK SURVEY

3.6 REMOVALS

- A. Coordinate and sequence roof removal such that tear-off debris and materials are not stored on or trafficked over the replacement roof system and such that varying heights between roof assemblies does not adversely affect roof drainage.
- B. Demolish and remove construction only to the extent required.
- C. Remove roof membrane, flashings, roof insulation, vapor retarder, and sheet metal and discard.
- D. Remove or correct obstructions which interfere with the proper application of materials.
- E. Lift or remove equipment so that flashings can be replaced.
- F. Remove debris to provide clean, dry substrate.
- G. Remove and transport debris in a manner that prevents damage/spills to adjacent buildings and areas.
- H. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.
- I. Transport demolished materials off-site and dispose of materials in a legal manner.
- J. Perform progress inspections to detect hazards resulting from demolition activities.

3.7 FLASHING HEIGHTS

- A. Permanently raise roof top equipment as required to achieve 8" minimum flashing height.
- B. Provide additional wood blocking to top of parapet walls and expansion joints to achieve minimum 8" flashing height.

- C. Extend sanitary vents to height required by the applicable Plumbing Code, but no less than 8 inches and no more than 12 inches above the finished roof system.

3.8 SCUPPER INSTALLATION

- A. Locate bottom of scupper at sump depth at wall location adjacent to existing primary drains to be abandoned in place.
- B. Extend opening through parapet wall. Take precautions to avoid damaging adjacent wall surfaces.
- C. Demolish asphalt, concrete and masonry in small sections. Cut concrete and masonry at juncture with construction to remain using powered masonry saw, core drill or hand tools. Do not use powered impact tools.
- D. Provide finished openings as indicated.
- E. Repair exterior wall surface, veneer or cladding to match adjacent surfaces.

3.9 CLEANING

- A. Inspect the site daily and clean up debris and hazards at the end of each day. Keep adjacent roads, drives and walkways in operation and free from construction materials debris.
- B. Clean adjacent structures of dust dirt and debris. Return adjacent areas to original conditions to the satisfaction of the Owner.

END OF SECTION

SECTION 07 22 16

ROOF INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide roof insulation system as specified in Section 01 11 00 - Summary of Work and as indicated in Contract Drawings.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections, apply to this Section:

1. Section 06 10 00 - Rough Carpentry
2. Section 07 01 50 - Preparation for Reroofing
3. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.3 REFERENCE STANDARDS

- A. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.
- B. ASTM C473 - Standard Test Methods for Physical Testing of Gypsum Panel Products; 2019.
- C. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2023a.
- D. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.
- E. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.
- G. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 Degrees C; 2024.

1.4 PERFORMANCE REQUIREMENTS

A. R Value

1. In accordance with the referenced Energy Conservation Code and ASHRAE 90.1.
2. Minimum continuous R-value: As shown on drawing XR301.

3. R value based on Long-Term Thermal Resistance (LTTR) for polyisocyanurate insulation and manufacturer's published data for other insulation components, as tested in accordance with specified the specified.
- B. Wind Design: Install insulation system to meet the required wind uplift pressures as specified in Contract Drawings.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Shop Drawings: Tapered insulation plan from material supplier with minimum R-value for each roof area.

1.6 QUALITY ASSURANCE

- A. Install insulation in accordance with their respective manufacturer's requirements.
- B. Reject insulation not bearing UL label at point of delivery.
- C. Remove insulation damaged or wetted before, during, or after installation from the job site no later than the next working day from the day such damage or moisture contamination is noted.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.
- B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.
 1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
 2. Install vapor retarders under material storage areas located on the ground.
 3. Remove damaged or deteriorated materials from the job site.
 4. Store adhesives in accordance with manufacturer's instructions.
- C. Handling: Handle material in such a manner to prevent damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

- A. Do not apply insulation during precipitation. Take responsibility for starting installation in the event there is a probability of precipitation occurring during application.
- B. Take necessary action to restrict dust, asphalt, and debris from entering the structure.
- C. Do not remove more roofing than can be replaced with insulation, membrane and flashings in the same day to create a watertight installation.

PART 2 PRODUCTS

2.1 MATERIALS

A. Insulation Boards:

1. Gypsum Substrate:

- a. Type X: Nonstructural, fiberglass faced, 5/8 inch thick, Type X, moisture resistant gypsum board, meeting the requirements of ASTM C1396/C1396M, ASTM D3273, and ASTM C473.
- b. Fiberglass Mat Faced: Nonstructural, glass mat faced gypsum panel with 500 psi moisture resistant treated core, Type X, and tested in accordance with ASTM C1396/C1396M, ASTM E84 and ASTM E136. Board Size: 4 feet by 8 feet. Thickness: 5/8 inch. Provide non-asphaltic primer surfacing if adhering insulation to gypsum substrate. Acceptable manufacturers include:
 - 1) GP Gypsum DensDeck
 - 2) DEXcell Glass Mat Roof Board
 - 3) USG Securock Glass-Mat Roof Board

2. Roof Insulation:

- a. Rigid polyisocyanurate roof insulation board complying with ASTM C1289 Type II, Class 2, Grade 2 and meeting the following requirements:
 - 1) Factory applied coated polymer bonded glass fiber mat facers on the top and bottom.
 - 2) 24 hours minimum curing time, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
 - 3) 2 percent maximum linear change dimensional stability when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
 - 4) Maximum permissible insulation board size for mechanical attachment is 4 feet by 8 feet and for foam adhesive and hot asphalt attachment is 4 feet by 4 feet. Field cutting of larger boards is not acceptable.
 - 5) Thickness: as indicated in Contract Drawings

3. Tapered Insulation System:

- a. Rigid polyisocyanurate roof insulation board complying with ASTM C1289 Type II, Class 2, Grade 2 and meeting the following requirements:
 - 1) Factory applied coated polymer bonded glass fiber mat facers on the top and bottom.

- 2) Curing time: 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
- 3) Dimensional stability: 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
- 4) Board size: 4 feet by 4 feet.
- 5) Slope: 1/4 inch per foot
- 6) Minimum thickness: Refer to XR301
- 7) Fill Insulation: Rigid polyisocyanurate meeting the above requirements with board size of 4 feet by 4 feet and thickness of 2 inches.
- 8) Crickets and Saddles: Rigid polyisocyanurate meeting the above requirements with a board size of 4 feet by 4 feet and 1/2 inch per foot slope.

4. Cover Board:

- a. Cover board approved by roof system manufacturer. Board Size: 4 feet by 8 feet. Minimum thickness as listed below or as required by roof system manufacturer.

- 1) Georgia Pacific 1/4 inch DensDeck Prime Roof Board
- 2) DEXcell 1/4 inch FA Glass Mat Roof Board

B. Insulation Accessories:

1. Tapered Edge Strip:

- a. Wood Fiber: Asphalt impregnated wood fiber tapered edge strips with 1 inch per foot slope of sizes indicated in Contract Drawings or required by field conditions meeting ASTM C208.

C. Insulation Mechanical Attachment Materials:

1. Steel Deck Fasteners and Stress Plates: Corrosion resistant 3-inch galvalume stress plate and corrosion resistant screw type fasteners for use with steel decks; approved by the insulation manufacturer for the insulation type, thickness and board size specified; fastener length as required by the fastener manufacturer for the insulation thickness specified, and to penetrate the deck a minimum of 3/4 inch and a maximum of 1-1/4 inch.

D. Adhesives:

1. Foam Adhesive: One or two part, VOC compliant, moisture-cured polyurethane foamable adhesive designed as roof insulation adhesive and approved by insulation manufacturer.
 - a. Primer: Provide as required by adhesive manufacturer and substrate conditions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect substrate for soundness and notify Engineer in writing of deficiencies.
- B. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.2 PREPARATION

- A. Dry and broom roof deck clean of debris and foreign matter prior to installation of insulation system.

3.3 APPLICATION

- A. General
 - 1. Apply in accordance with the insulation and roof system manufacturer's instructions and these specifications.
 - 2. Install insulation in full boards, carefully fitted and pushed against adjoining sheets to form tight joints. Gaps exceeding 1/4 inch are not acceptable.
 - 3. Saw cut or knife cut insulation and cover boards in a straight line, not broken. Utilize chalk lines to cut insulation. Uneven or broken edges are not acceptable.
 - 4. Remove insulation dust and debris that develops during insulation cutting operations.
 - 5. Offset joints between successive and adjacent layers of insulation a minimum of six inches.
 - 6. Stagger joints of cover boards one foot (vertically and laterally) to ensure that joints do not coincide with joints from the previous or adjacent layer.
 - 7. On steel decks, apply insulation boards with long dimension of units across deck ribs. Bear ends of insulation boards on top flange of steel deck.
 - 8. Install crickets, saddles and tapered edge strips before the cover board.
 - 9. Adhere cant strips and tapered edge strips at transitions, terminations and/or penetrations as detailed or required ribbons of foam adhesive to ensure smooth transitions are provided for the roof membrane and flashings.
 - 10. Provide necessary modifications to insulation system or nailers at roof edges as required to ensure a flush and smooth transition is provided for the roof membrane and flashing.
 - 11. Make field modifications of insulation, tapered insulation, tapered edge strips and cants where required to accommodate roof and flashing conditions and to prevent water dams and ponding water. Ponding water at scuppers and cricket valleys is not acceptable.
 - 12. Ponding Water:

- a. The ponding of water on the roof surface after installation of the roofing system is not acceptable and is grounds for rejection of the roof.
- b. Ponding is herein defined as precipitation remaining in a four-square foot area or larger, 1/4 inch or deeper for a period of 24 hours from the termination of precipitation.
- c. Provide modifications to insulation system to ensure proper drainage and prevent standing water including but not limited to reinstallation of roof system or installation of additional tapered insulation.

B. Tapered Insulation System:

1. Install tapered insulation system to provide positive slope for roof drainage without ponding water.
2. Size crickets as shown in the Contract Drawings. Provide modifications to ensure positive slope and prevent standing water along the cricket valley.
 - a. Minimum length to width ratio of 2:1. Fabricate partial crickets with dimensions which result in a minimum length to width ratio of 2:1 if they were extended to full size.
 - b. Unless otherwise noted, fabricate crickets from tapered stock as required to provide the specified minimum slope. For example, when roof slope is indicated as 1/4 inch per foot minimum, fabricate crickets with slope of 1/2 inch per foot minimum.
 - c. Construct crickets on up slope side of curbs to ensure positive drainage.
 - d. Install tapered edge strips at cricket edges to provide a smooth transition between the cricket and insulation system below.
3. Insulation boards may require mechanical fasteners and stress plates at slope transition of crickets to minimize bridging.

C. Roof Drainage:

1. Install drainage sumps as detailed.
2. Carefully lay out the tapered insulation, sumps, drain bowls and scuppers to ensure the finished roof provides drainage with no ponding water.
3. Fabricate miter-cut sumps at drains/scuppers to provide smooth transitions between the insulation system and the drains/scuppers.
4. Ensure sumps provide roof drainage and prevent water dams.
5. Adjust insulation, drains and scuppers to ensure roof drainage and satisfactory substrates for membrane and flashings.
6. Secure drain sump components using specified insulation fasteners or adhesives.
7. Circular sumps and sumps that do not provide smooth transition or that create standing water at the drains are not allowed.

- D. Tapered Edge Strips:
1. Install at edges to make transitions as detailed in Contract Drawings.
 2. Provide to form crickets in front of curbs wider than 12 inches.
 3. Provide slope transition at the outside of drainage sumps.
 4. Provide slope at top of parapet walls below coping.
 5. Use 1/2 inch by 6 inch tapered edge strips in front of tapered insulation crickets to provide smooth transition.
- E. Insulation Mechanical Attachment:
1. Fastener quantity and spacing as required to comply with the requirements of roof system manufacturer's approved, tested assembly.
 2. Install fasteners using manufacturer's recommended equipment and in accordance with the manufacturer's requirements.
 3. Set fasteners and stress plates secure and tight against the insulation surface and do not over drive.
 4. Fasteners to engage the top flange of steel decks only.
 5. For Nailable Cross Ventilated Roof Insulation, install insulation boards with vent channels parallel to the roof slope. Ensure that vent channels are aligned at butt joints.
- F. Foam Adhesive:
1. Position and space adhesive beads as required to comply with the requirements of the roof system manufacturer's approved, tested assembly.
 2. Size adhesive beads in accordance with the adhesive manufacturer's guidelines.
 3. Place insulation boards onto the beads and "walk" and/or "weight" into place. Place insulation boards into the adhesive in accordance with the adhesive manufacturer's guidelines.
 4. Ensure adhesion of insulation and take whatever steps necessary to achieve adhesion, including but not limited to temporary ballasting of insulation until adhesive sets.

END OF SECTION

SECTION 07 26 00

MODIFIED BITUMEN VAPOR RETARDER

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Prime concrete deck.
 - 2. Provide temporary membrane in cold adhesive.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections, apply to this Section:
 - 1. Section 06 10 00 - Rough Carpentry
 - 2. Section 07 01 50 - Preparation for Reroofing
 - 3. Section 07 22 16 - Roof Insulation
 - 4. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.3 REFERENCE STANDARDS

- A. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing; 2011 (Reapproved 2023).
- B. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).
- C. ASTM D6163/D6163M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements; 2021.
- D. ASTM D6164/D6164M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements; 2021.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

1.5 QUALITY ASSURANCE

- A. Manufacturer producing modified bitumen products in the United States for a minimum of 10 years with a consistent composition for a minimum of five years without a change in the basic product design or SBS modified bitumen blend (e.g. no substantive changes in product composition, polymer specification, asphalt or filler formulation).
- B. Inspect vapor retarder by the Contractor and Manufacturer's technical representative and repair and prepare to meet the Manufacturer's requirements prior to installing the above roof system components.
- C. Included in the wind uplift and fire rating test reports of the specified roof system.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery. Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. Storage: Store materials out of direct exposure to the elements on pallets at least 4 inches above ground level at site location acceptable to the Owner.
 - 1. Storage trailers are acceptable provided they are equipped with a lock and located at a site location acceptable to the Owner.
 - 2. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
 - 3. Install vapor retarders under material storage areas located on the ground.
 - 4. Store roll goods on end on a clean flat surface.
 - 5. Remove damaged or deteriorated materials from the job site.
- C. Handling. Handle material in such manner as to preclude damage and contamination with moisture or foreign matter.

1.7 JOB CONDITIONS

- A. Environmental Requirements
 - 1. Do not apply during precipitation and do not start application in the event there is a probability of precipitation during application.
 - 2. Do not apply at or below the dew point temperature.
 - 3. When conditions are damp and where adjacent roof areas have moisture or dew, dry surfaces to prevent tracking water over the membrane substrates.
 - 4. At ambient temperatures of 40°F and below, including wind chill, take precautions to ensure adhesives and other materials maintain the minimum acceptable temperature at the point of roofing application as recommended by the membrane manufacturer.
- B. Protection
 - 1. Protect against staining and mechanical damage of adjacent surfaces and work areas during application.

2. Prevent smoke and other fumes from entering facility by coordinating with facility representative and by temporary intake shut down and/or covering intake.
3. Protect materials being installed and storage of materials against wind related damage.

1.8 WARRANTY

- A. Included in the specified manufacturer's roof system warranty.

PART 2 PRODUCTS

2.1 MEMBRANE MATERIALS

- A. Temporary Membrane: Glass fiber and/or polyester reinforced ply sheet manufactured for cold adhesive application, meeting or exceeding requirements of ASTM D6163/D6163M or ASTM D6164/D6164M, Type I or II, Grade S; or ASTM D 6509.
 1. Derbigum Derbibase Ultra
 2. Siplast Paradiene 20
 3. Soprema Sopralene 180 Sanded
- B. Flashing Ply: Self adhering, glass fiber and/or polyester reinforced ply sheet, meeting or exceeding requirements of ASTM D6163/D6163M or ASTM D6164/D6164M, Type I or II, Grade S; or ASTM D 6509.
 1. Derbigum PRS SA Base Sheet
 2. Siplast Paradiene 20 SA
 3. Soprema Sopralene Stick

2.2 RELATED MATERIALS

- A. Asphalt primer: Meet ASTM D41/D41M requirements and be approved for intended use by membrane manufacturer.
- B. Solvent Free Cold Adhesive: A single component, solvent-free modified asphalt adhesive designed for application of the specified roof membrane in areas below the fluid applied flashing.
- C. Utility Roof Cement: Asphalt cutback general utility mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges and temporary seals conforming to ASTM D4586/D4586M, Type II requirements.
- D. Fluid Applied Flashing System: Membrane manufacturer's polyurethane or PMMA based resin with polyester fleece flashing system.
 1. Derbigum Derbiflash
 2. Siplast Parapro
 3. Soprema Alsan RS

PART 3 EXECUTION

3.1 INSPECTION

- A. Conduct a pre-job conference including the Engineer, Contractor, and the membrane manufacturer's representative prior to the application of the roofing.
- B. Verify work penetrating the roof deck or work affecting the roofing has been properly completed.
- C. Inspect substrate prior to application. Commencement of work signifies acceptance of substrate. Correct defects in work resulting from such accepted substrates to Owner's satisfaction.

3.2 PREPARATION

- A. Sweep or vacuum surfaces prior to commencement of roofing.
- B. Coordinate closure of air intakes prior to application of primer and cold adhesives.
- C. Unroll membrane and allowed to relax in accordance with membrane manufacturer's recommendations or a minimum of thirty minutes, whichever is greater.
- D. Where walls, curbs, expansion joints, etc. present an unacceptable substrate for flashing and where flashings substrates are combustible, fasten a layer of non-combustible overlayment insulation to provide a suitable substrate for flashing.

3.3 APPLICATION

- A. General:
 - 1. Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements.
 - 2. Priming:
 - a. Prime metal flanges, concrete and masonry surfaces with a uniform coating of asphalt primer.
 - b. Provide coverage to ensure surfaces are dark brown to black at minimum rate of 1 to 1-1/4 gallons per square.
 - c. Allow primer to dry prior to application of asphalt/adhesive.
 - 3. Inspect membrane and flashing application each day. Repair deficiencies daily prior to beginning or resuming other work.
 - a. Cut open and remove membrane deficiencies as necessary.
 - b. Repairs extend from lap to lap.
- B. Installation:
 - 1. Apply membrane in accordance with the manufacturer's instructions and the following requirements.
 - 2. Apply layers of roofing free of wrinkles, creases or fishmouths.

3. Exert sufficient pressure by use of roller or broom on the roll during application to ensure prevention of air pockets.
 4. Apply layers of roofing perpendicular to the slope of the deck.
 5. Hot air weld all seams and laps.
 6. Provide flashings consisting of the following:
 - a. Provide fluid applied flashing at roof drains, soil pipes, pipe penetrations and/or where specified in the Contract Documents. Extend height of fluid applied flashing above the finished height of the insulation system.
 - b. Provide separate flashing ply at curbs and walls to extend 4" onto vapor retarder and height to extend above the finished height of the insulation system.
- C. Cold Adhesive:
1. Apply in accordance with membrane manufacturer's published instructions.
 2. Apply with 3/8-inch notched soft rubber squeegee.
 3. Apply cold adhesive in a smooth, even, continuous layer without breaks or voids.
 4. Utilize an application rate of 2 to 2 1/2 gal/sq over irregular or porous substrates. Utilize an application rate of 1 1/2 to 2 gal/sq for interply applications. Vary application rates based on conditions present.
 5. Inspect and change squeegee blades daily. Replace squeegee blades more frequently as the notches are worn down less than 3/8 inch.
 6. Apply cold adhesives between ambient temperatures of approximately 40°F to 100°F. Minimize foot traffic in areas where adhesive has been installed.
 7. Hot air weld all seams and laps.
- D. Fluid Applied Flashing:
1. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to set.
 2. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
 3. Refer to manufacturer's installation instructions for application rates and additional installation information.
- E. Water cut-off: At end of day's work, or when precipitation is imminent, construct a water cut-off at open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Remove cut-offs prior to the resumption of roofing.

3.4 CLEAN UP

- A. Remove debris and excess material from the roof area. Pick-up loose fasteners and sheet metal scraps.
- B. Clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.

END OF SECTION

SECTION 07 54 00

THERMOPLASTIC SINGLE PLY ROOFING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Provide adhered, fleeceback, thermoplastic membrane and flashings to provide a permanently watertight system.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections, apply to this Section:
1. Section 06 10 00 - Rough Carpentry
 2. Section 07 01 50 - Preparation for Reroofing
 3. Section 07 22 16 - Roof Insulation
 4. Section 07 62 00 - Sheet Metal Flashing and Trim
 5. Section 07 71 19 - Manufactured Gravel Stops and Facias

1.3 REFERENCE STANDARDS

- A. ASTM D4434/D4434M - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing; 2021.
- B. ASTM D6754/D6754M - Standard Specification for Ketone Ethylene Ester Based Sheet Roofing; 2015.
- C. FM 4470 - Examination Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for Use in Class 1 and Noncombustible Roof Deck Construction; 2022.
- D. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.
- E. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings; Current Edition, Including All Revisions.
- F. UL 1897 - Uplift Tests for Roof-Covering Systems; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

1.4 PERFORMANCE REQUIREMENTS

- A. Install roofing system to meet UL 790 Class A Fire Rating.

- B. Wind Uplift Strength: Provide an approved roof assembly tested in accordance with FM 4470, UL 580 or UL 1897 to resist the minimum required wind uplift strength specified in the Contract Drawings.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Roof System Assembly Letter: Letter from roof system manufacturer listing roof assembly components along with their method of attachment and acceptance of the specified roof system warranty terms. Assembly letter should match the submitted test report documentation and specified assembly.
- D. Test Reports: Submit documentation of approved, tested roof system to meet the specified requirements for the following:
 - 1. Wind uplift pressures
 - 2. UL Fire Resistance Rating
- E. Shop Drawings:
 - 1. Submit manufacturer approved drawings and details for conditions not depicted in Contract Drawings including but not limited to inside corners, outside corners, lap seams, etc.

1.6 QUALITY ASSURANCE

- A. Manufacturer Requirements:
 - 1. Written contractor/installer approval program.
 - 2. Primary membrane products (including roof membrane and flashing membrane) manufactured by other manufacturers and private labeled are not acceptable.
- B. Contractor Requirements:
 - 1. Install roof system by a Contractor authorized by the membrane manufacturer for a minimum of two years with manufacturer's highest certification level.
 - 2. Application of the roofing system accomplished by primary roofing contractor, his roofing foreman, and sufficient applicator technicians who have been trained and approved by the manufacturer of the single ply roofing system. Submit evidence of qualification from the manufacturer.
- C. No deviations made from the Contract Documents or the accepted shop drawings without prior written acceptance by the Engineer.
- D. Complete work by personnel trained and authorized by the membrane manufacturer.
- E. Upon completion of the installation, provide inspection by a representative of the membrane manufacturer to review the installed roof system and document deficiencies.

- F. Provide manufacturer written verification indicating seams have been probed and are watertight.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging and in quantities required to allow continuity of application.
- B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.
 - 1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
 - 2. Install vapor retarders under material storage areas located on the ground.
 - 3. Remove damaged or deteriorated materials from the job site.
 - 4. Store membrane rolls lying down on pallets and protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions affecting the ease of membrane weldability.
 - 5. Store adhesives at temperatures approved for the product.
 - 6. Store flammable materials in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/ supplier.
 - 7. Remove damaged materials and replace at no cost to the Owner.
- C. Handling: Handle materials in such a manner as to prevent damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

- A. Do not apply roofing during precipitation. Contractor assumes responsibility for starting installation in the event there is a probability of precipitation occurring during application.
- B. Only install as much of the roofing as can be made weathertight each day, including flashing and detail work. Clean and hot air weld seams before leaving the job site that day.
- C. Schedule and execute work without exposing the interior building areas to the effects of inclement weather. Protect the building and its contents against risks.
- D. Ensure surfaces to receive insulation, membrane or flashings are dry. Provide the necessary equipment to dry the surface prior to application.
- E. Secure construction, including equipment and accessories, in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.
- F. Install uninterrupted waterstops at the end of each day's work and remove before proceeding with the next day's work. Do not allow waterstops to emit dangerous or unsafe fumes and remain in contact with the finished roof as the installation progresses. Replace contaminated membrane at no cost to the Owner.

- G. 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, provide necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. Provide a protection layer of plywood over insulation board for roof areas that receive rooftop traffic during construction.
- H. Prior to and during application, remove dirt, debris and dust from surfaces, either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- I. Do not allow contaminants, grease, fats, oils, and solvents to come into contact with the roofing membrane. Report rooftop contamination that is anticipated or that is occurring to the Engineer and membrane manufacturer to determine the corrective steps necessary.
- J. If unusual or concealed condition is discovered; stop work and notify Engineer of such condition in writing within 24 hours.
- K. Do not install the roofing membrane under the following conditions without consulting the membrane manufacturer's technical department for precautionary steps:
 - 1. The roof assembly permits interior air to pressurize the membrane underside.
 - 2. The wall/deck intersection permits air entry into the wall flashing area.
- L. Refer to Section 01 14 00 - Work Restrictions for precautions when using membrane adhesives at or near rooftop vents or air intakes. Keep lids on unused cans.

1.9 WARRANTIES

- A. Manufacturer's Guarantee: Manufacturer's standard form, non-pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility).
 - 1. Warranty Period: 20 years from date of Final Acceptance
 - 2. Warranty to remain in effect for wind speeds up to 72 mph.
 - 3. Warranties requiring the Owner's signature are not acceptable.
 - 4. Warranty to include membrane materials, adhesives, related materials and fasteners specified in this section and the following materials specified in other sections as follows:
 - a. 07 22 16 - Roof Insulation
 - b. 07 26 00 - Modified Bitumen Vapor Retarder
 - c. Polymer Clad Metal as specified in Section 07 62 00 - Sheet Metal Flashing and Trim
 - d. 07 71 19 - Manufactured Gravel Stops and Fascias

- B. Contractor's Warranty: Two Year Warranty: Manufacturer's Representative and Contractor's Representative will attend post construction field inspection no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Subject to compliance with requirements herein, provide roof system from a single source. Manufacturers:
1. Sika Sarnafil
 2. Fibertite
 3. IB Roof Systems
 4. Siplast
 5. Soprema
 6. Carlisle Syntec

2.2 MEMBRANE MATERIALS

- A. Membrane: Thermoplastic membrane with fiberglass and/or polyester reinforcement meeting ASTM D4434/D4434M or ASTM D6754/D6754M and factory applied fleece backing. Acceptable products:
1. Sika Sarnafil 60-mil G410 Feltback
 2. Fibertite 45-mil SM-FB
 3. IB PVC FB 60-mil Single-Ply Membrane
 4. Siplast Parasolo PVC Kee Fleeceback 60-mil
 5. Soprema Sentinel P150 HFB
 6. Carlisle Sure-Flex FleeceBack PVC 115-mil Membrane
- B. Flashing/Stripping Membrane: Non fleeceback, thermoplastic membrane reinforced with fiberglass.
1. Sika Sarnafil 60-mil G410
 2. Fibertite 45-mil SM
 3. IB PVC 60-mil Single-Ply Membrane
 4. Siplast Parasolo PVC Kee Smooth 60-mil
 5. Soprema Sentinel P150 Membrane
 6. Carlisle Sure-Flex PVC 60-mil Membrane

- C. Asphalt Resistant Flashing/Stripping Membrane: Thickness to match Flashing/Stripping Membrane, non fleeceback, asphalt resistant, thermoplastic membrane reinforced with fiberglass or polyester. Utilize where flashing membrane is in contact with residual asphaltic materials or as required by the manufacturer.
- D. Membrane and Flashing Membrane Color: White

2.3 ADHESIVES

- A. Membrane Adhesive: Membrane manufacturer's water-based adhesive. Water based adhesive shall not be utilized in temperatures below 40 degrees F.
 - 1. Sika Sarnafil Sarnacol 2121
 - 2. Fibertite FTR 490
 - 3. IB WaterBorne Adhesive 636
 - 4. Siplast Parasolo PVC Quick-Lay Adhesive
 - 5. Soprema Sentinel H2O Bonding Adhesive
 - 6. Carlisle Sure-Flex PVC Hydrobond Water Based Adhesive
- B. Flashing Adhesive: Membrane manufacturer's solvent-based adhesive.
 - 1. Sika Sarnafil Sarnacol 2170
 - 2. Fibertite FTR 190e
 - 3. IB Vertibond Adhesive 432
 - 4. Siplast Parasolo PVC Bonding Adhesive
 - 5. Soprema Sentinel S Bonding Adhesive
 - 6. Carlisle Sure-Flex PVC Low VOC Bonding Adhesive

2.4 RELATED MATERIALS

- A. Fluid Applied Flashing: Roof system manufacturer's approved, reinforced, PMMA liquid applied flashing.
 - 1. Sika Sarnafil Liquid Flashing
 - 2. Fibertite - Soprema Alsan RS
 - 3. Soprema Alsan RS 230 Flash as approved by IB Roof Systems
 - 4. Siplast Parapro 123 Flashing System
 - 5. Soprema Alsan RS 230 Flash
 - 6. Carlisle Liquiseal Liquid Flashing
- B. T-joint Patch: Membrane manufacturer's circular patch welded over T-joints formed by overlapping thick membranes.

- C. Corner Flashing: Membrane manufacturer's pre-formed inside and outside flashing corners that are hot-air welded to membrane or polymer clad metal base flashings.
- D. Coverstrip: 8 inch wide pre-cut polyester reinforced flashing strip.
- E. Pipe Flashing: Membrane manufacturer's pre-formed pipe boot flashing that is hot-air welded to membrane and secured with a stainless-steel draw band and sealant.
- F. Termination Bar: Manufacturer's 1/8 inch by 1 inch mill finish extruded aluminum bar with pre-punched slotted holes.
- G. Lipped Termination Bar: 3/4 inch wide, extruded mill finished aluminum (6063 T6 Alloy) with 3/16 inch lip and pre-punched oval holes at 6 inches on center.
- H. Walkway Pad: Walkway pad by manufacturer of membrane.
- I. Pre-Fabricated Expansion Joint: Manufacturer's approved pre-fabricated expansion joint made with polyester reinforced membrane, neoprene foam and galvanized metal.
- J. Polymer Clad Metal: Refer to Section 07 62 00 - Sheet Metal Flashing and Trim.

2.5 SEALANTS AND CLEANERS

- A. Sealant: Manufacturer's multi-purpose sealant.
- B. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.
- C. Primary Membrane Cleaner: High-quality solvent cleaner provided by membrane manufacturer for use as a general membrane cleaner.
- D. Pre-weld Cleaner: High-quality solvent based seam cleaner with moderate evaporation rate as recommended and provided by membrane manufacturer.

2.6 FASTENERS

- A. Flashing Membrane Termination Screws: #12 corrosion resistant hex or pan head screws with length to penetrate substrate a minimum of 1-1/2 inch.
- B. Concrete and Masonry Flashing Membrane Termination Anchors:
 - 1. 1/4-inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inch.
 - 2. Masonry screws approved by membrane manufacturer, 1/4-inch minimum diameter, corrosion resistant, with Phillips flat head. Length to provide minimum 1-1/2 inch embedment into substrate.
- C. Steel Deck Fasteners and Plates: #12 corrosion resistant approved by membrane manufacturer of length to penetrate top flange of steel deck a minimum of 1 inch with galvalume plates approved for membrane attachment.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect the surface of the insulation or substrate prior to installation of the roof membrane.

- B. Verify that the substrate is dry, clean, smooth, and free of debris, loose material, oil, grease, or other foreign matter. Remove sharp ridges and other projections and accumulations of bitumen to ensure a smooth surface before roofing.
- C. Replace broken, delaminated, wet or damaged insulation boards.
- D. Repair deteriorated substrates.
- E. Beginning installation means acceptance of prepared substrate.

3.2 PREPARATION

- A. Remove, cover or flash using compatible, approved materials substrates containing asphalt. Do not allow PVC to contact substrates containing asphalt materials.
- B. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

3.3 ADHERED MEMBRANE INSTALLATION

- A. Over the properly installed and prepared substrate, apply membrane adhesive in accordance with the manufacturer's instructions and application rates utilizing equipment as required by the manufacturer.
 - 1. Do not allow adhesive to skin-over or surface-dry prior to installation of roof membrane.
 - 2. Do not utilize water-based membrane adhesive if temperatures below 40° F (5° C) are expected during application or subsequent drying time.
 - 3. Comply with the manufacturer's published requirements for adhesive application rates.
 - 4. Count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.
 - 5. Do not apply adhesive in seam areas.
 - 6. Replace notched squeegees daily or as notches are reduced below 1/4 inch.
- B. Place roof membrane into the adhesive in accordance with manufacturer's instructions.
- C. Shingle seams with flow of water. Overlap upslope, adjacent rolls 3 inches over previous roll. This process is repeated throughout the roof area.
- D. After placement of membrane, press roll into place with the manufacturer's recommended roller by frequent rolling in two directions.
- E. Weld membrane coverstrips at fleecback membrane seams without a factory selvage edge.

3.4 MEMBRANE TERMINATION

- A. Terminate membrane at walls and curbs as shown in the contract drawings.
 - 1. Roof Deck: Mechanically terminated using specified fasteners and plates 6 inches on center.

2. Wood Wall Substrate: Turn membrane up wall 1 inch and mechanically terminate using specified screws 8 inches on center with a termination bar.
 3. Concrete/Masonry Wall Substrate: Turn membrane up wall 1 inch and mechanically terminated using specified anchors 8 inches on center with a termination bar.
- B. Terminate membrane at penetrations as shown in the contract drawings.
1. Fasten membrane 6 inches on center or a minimum of 4 fasteners per penetration into the structural deck using fasteners and plates as approved by the membrane manufacturer for the deck substrate.
- C. Extend membrane over roof edge a minimum of 2 inches below the perimeter wood blocking. If fleeceback membrane is utilized, trim membrane flush with outside edge of roof and hot-air weld a non fleeceback flashing membrane to extend over the roof edge.
- D. Provide sealant tape at base of flashing membrane on outside of wall to prevent moisture infiltration.

3.5 FLASHING INSTALLATION

- A. General
1. Install flashings concurrently with the roof membrane as the job progresses.
 2. Temporary flashings are not allowed.
 3. Do not tape seams as temporary measure; hot-air weld seams before the end of each day.
 4. Adhere flashings to compatible, dry, smooth, and solvent-resistant surfaces.
 5. Where substrates are incompatible with adhesives and PVC materials, remove the incompatible materials and replace with a compatible substrate or install compatible PVC flashing materials.
 6. Use caution to ensure adhesive fumes are not drawn into the building.
- B. Adhesive for Flashing Membrane
1. Over the properly installed and prepared flashing substrate, apply flashing adhesive according to manufacturer's installation instructions. Apply adhesive in smooth, even coats with no gaps, globs or similar inconsistencies.
 2. Press the sheet firmly in place with a hand roller to ensure bond and adhesion.
 3. Do not apply adhesive in seam areas that are to be welded.
- C. Mechanically terminate flashings a minimum of 8 inches above the finished roofing surface using specified method indicated in the Contract Drawings.
- D. Cut and provide hot-air welded corner flashing at interior and exterior corners.
- E. Hot-air weld flashings at their joints and at their connections with the roof membrane.

- F. Provide additional securement for flashings that exceed 30 inches in height. Consult Manufacturer's Technical Department for securement methods.
- G. Seal off Polymer Clad sheet metal incorporated into the roofing system with a hot-air welded stripping ply. Extend stripping ply four inches beyond sheet metal onto roof membrane and fit closely to edge of sheet metal.
- H. At expansion joints, extend flashing membrane over joint and dip into cavity to allow for expansion.
- I. Soil Pipe/Pipe Penetration:
 - 1. Provide field wrapped pipe penetration flashing or manufacturer's prefabricated pipe boot as shown in detail drawing.
 - 2. Apply aluminum tape to penetration if asphalt contamination is present.
 - 3. Hot-air weld horizontal flashing membrane a minimum of four inches onto the membrane.
 - 4. Adhere vertical flashing membrane adhered to pipe penetration and extend a minimum of 1.5 inches horizontal at the base of penetration. Hot-air weld vertical flashing membrane to horizontal flashing membrane.
 - 5. Install stainless steel draw band and sealant or hot-air weld flashing cap to terminate top edge of pipe flashing.

3.6 HOT-AIR WELDING OF SEAM OVERLAPS

A. General

- 1. Hot-air weld seams.
 - a. Minimum 3-inch-wide membrane overlap when automatic machine-welding.
 - b. Minimum 4-inch-wide membrane overlap when hand-welding, except for certain details.
 - c. Minimum width of hot-air weld is 1-1/2 inches.
 - d. Provide wider membrane overlaps or width of welds as required by the roof membrane manufacturer.
- 2. Provide welding equipment by or approved by the membrane manufacturer. Mechanics intending to use the equipment to have successfully completed a training course provided by a membrane manufacturer's technical representative prior to welding.
- 3. Clean and dry membrane to be hot-air welded.

B. Hand-Welding

- 1. Complete hand-welded seams in two stages. Allow hot-air welding equipment to warm up prior to welding.

2. Weld the back edge of the seam with a narrow but continuous weld to prevent loss of hot air during the final welding.
3. Insert nozzle into the seam at a 45-degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow," the hand roller is positioned perpendicular to the nozzle and pressed lightly. For straight seams, the 1-1/2 inch wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch wide nozzle is recommended for use.

C. Machine Welding

1. Machine welded seams are achieved by the use of automatic welding equipment. When using this equipment, follow instructions from the manufacturer and local codes for electric supply, grounding and over current protection. Dedicated circuit house power or a dedicated portable generator is recommended. Do not operate other equipment off the generator.
2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

D. Quality Control of Hot-Air Welded Seams

1. Check hot-air welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. Provide on-site evaluation of welded seams daily and to locations as directed by the Engineer or membrane manufacturer's representative.
2. Take 1-inch-wide cross-section samples of hot-air welded at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Patch test cut areas.

3.7 WALKWAY PAD INSTALLATION

- A. Check membrane seams that are to be covered by walkway pad with rounded screwdriver and repair deficiencies prior to walkway pad installation.
- B. Clean and dry roof membrane to receive walkway pad.
- C. Place chalk lines on sheet to indicate location of Walkway.
- D. Apply a continuous coat of membrane adhesive to the sheet and the back of walkway pad in accordance with membrane manufacturer's technical requirements and press walkway pad into place with a water-filled, foam-covered lawn roller.
- E. Clean the membrane in areas to be welded. Hot-air weld perimeter of the walkway to the roof membrane.
- F. Check welds with a rounded screwdriver. Repair deficiencies.
- G. Provide walk pads where indicated in Contract Drawings and at the following locations:
 1. Around roof hatches.
 2. At base and top of fixed wall access ladders.

3. Around HVAC units.
4. At door access to roof areas.

3.8 TEMPORARY CUT-OFF

- A. Install flashings concurrently with the membrane in order to maintain a watertight condition as the work progresses.
- B. When a break in the day's work occurs in the central area of the project, install a temporary watertight seal. Provide an 8-inch strip of flashing membrane welded 4 inches to the field membrane. Seal the remaining 4 inches of flashing membrane to the deck or the substrate so that water can not travel under the membrane. Seal the edge of the membrane with a continuous, heavy, 6 inch width application of pourable sealer. When work resumes, remove the contaminated membrane. Do not reuse these materials.
- C. If inclement weather occurs while a temporary water stop is in place, monitor the situation to maintain a watertight condition.
- D. If water is allowed to enter under the completed system, replace the affected area.

3.9 CLEANING

- A. Ensure trash and debris is removed from the roof daily.
- B. Keep metal scraps, nails, screws and other sharp damaging debris off of the roof membrane surface during construction.
- C. Clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.
- D. Remove temporary coverings and masking protection from adjacent work areas upon completion.

3.10 PROTECTION

- A. Protect the roof from construction related damages during the Work.
- B. Replace damaged membrane, flashings and other membrane components. Repair in accordance with the membrane manufacturers repair instructions to comply with the specified warranty.

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Sheet metal flashings and trim to provide a permanently watertight condition.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections, apply to this Section:
 - 1. Section 06 10 00 - Rough Carpentry
 - 2. Section 07 54 00 - Thermoplastic Single Ply Roofing
 - 3. Section 07 71 19 - Manufactured Gravel Stops and Fascias

1.3 REFERENCE STANDARDS

- A. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2022.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- C. NRCA (RM) - The NRCA Roofing Manual; 2024.
- D. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Shop Drawings: For any transitions and/or terminations not depicted in Contract Drawings.
- D. Test Reports: Submit test reports for edge metal indicating resistance of specified wind uplift pressures.
- E. Color Charts:
 - 1. Pre-finished Sheet Metal
 - 2. Polymer Clad Sheet Metal

3. Sealants

1.5 QUALITY ASSURANCE

- A. Install in accordance with the Contract Drawings.
- B. Ensure work is free of leaks.
- C. Provide metal edge and coping fabricated and tested in accordance with ANSI/SPRI/FM 4435/ES-1 to resist the specified wind uplift pressures.
 - 1. Fabricate metal edge and coping as shown in Contract Drawings and following NRCA (RM) tested details.
- D. Provide sheet metal flashing and trim in accordance with SMACNA (ASMM).
- E. Provide first-class workmanship. Assemble and secure sheet metal work in accordance with these specifications, roof system manufacturer's requirements and referenced standards.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. Storage: Store materials within areas designated by the Owner. Ensure materials remain dry, covered and not in contact with the ground.
- C. Handling: Handle material in such manner as to preclude damage and contamination with moisture or foreign matter.

1.7 PROJECT CONDITIONS

- A. Environmental: Protect building and its components from the elements.
- B. Coordination and Scheduling: Coordinate phases of work to allow continuity of work without delays.

1.8 WARRANTY

- A. Provide pre-finished sheet metal manufacturer's thirty (30) year finish warranty from the date of final acceptance.

PART 2 PRODUCTS

2.1 PRIMARY SHEET METAL

- A. Material: Pre-finished Aluminum
 - 1. Pre-finished Aluminum: 040 inch (40-mil), ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14, primed and finished on one side with Kynar/Hylar based fluoropolymer coating of 1.0 mil total dry film thickness, and on the reverse side, with a wash coat of 0.3 to 0.4 mil dry film thickness. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.
 - a. Collector Head

- b. Downspouts
- 2. Mill-finished Aluminum: 0.040 inch (40-mil) Mill Finished Aluminum. ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14.
 - a. Counterflashing
 - b. Scupper Face Plate

2.2 ALUMINUM

- A. ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14:
 - 1. Downspout Hanger: 1/16 inch x 1 inch

2.3 POLYMER CLAD METAL

- A. Heat-weldable, 24 gauge, AISI G90 galvanized steel sheet with an unsupported 20-mil thermoplastic membrane coating to match the flashing membrane composition laminated on one side, manufactured by, and included in the roof membrane manufacturer's warranty. Color selected by Owner.
 - 1. Flange/Sleeve
 - 2. Scupper Liner

2.4 FASTENERS

- A. Roofing Nails: Minimum 12-gauge stainless steel ring shank roofing nails with diamond point, minimum 3/8 inch diameter head and length as required to penetrate substrate a minimum of 1-1/4 inches.
- B. Screws:
 - 1. Sheet metal to wood attachment (exposed): #12 stainless steel, 5/16 HWH with length to penetrate substrate a minimum of 1-1/2 inches. Provide with bonded EPDM washer or washer specified below. Factory painted heads to match the sheet metal color.
 - 2. Sheet metal to wood attachment (concealed): #10 stainless steel, low profile pancake head with length to penetrate substrate a minimum of 1-1/2 inches.
 - 3. Sheet metal to sheet metal attachment (exposed): 1/4 inch x 7/8 inch carbon steel, self-drilling point, self-tapping, zinc alloy hex head screws with bonded EPDM tubular washer under head of fastener; screw heads to match color of wall panel by means of factory applied coating. Factory painted heads to match the sheet metal color.
 - 4. Sheet metal to light gauge steel attachment (concealed): #14-13 DP1 stainless-steel low-profile pancake head of length as required for three threads to penetrate metal substrate or min. 1 inch penetration though wood substrates.
- C. Concrete and Masonry Anchors: 1/4 inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inches. Factory painted heads to match the sheet metal color.
- D. Washers: Stainless steel with neoprene gasket backing.

1. 9/16 inch diameter for use with #12 screws
 2. 5/8 inch diameter for use with 1/4 inch diameter concrete and masonry anchors.
- E. Rivets: #44 stainless steel rivets with stainless steel mandrel and factory painted head to match adjacent sheet metal. Length to properly fasten particular sheet metal components.

2.5 RELATED MATERIALS

A. Sealants:

1. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant meeting ASTM C920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color to match sheet metal color selected by Owner. Acceptable Manufacturers include:
 - a. Dow 790 Building Sealant
 - b. Pecora 890 NST Silicone
 - c. Sikasil-WS 290
 - d. Triangle Fastener Corporation Ultra 1000
 2. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.
 3. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.
 4. Backer Rod: Closed-cell polyethylene or polyurethane rods sized approximately 25% larger than joint opening.
- B. Aluminum Tape: Pressure-sensitive, 2 inch wide aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as bond breaker under the metal edge cover plates.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Coordinate with other work for correct sequencing of items.
- B. Ensure substrates are installed, secured and modified to accommodate sheet metal flashings.
- C. Report deficiencies associated with the sheet metal substrates to Engineer before beginning sheet metal work. Correct deficiencies before installing sheet metal flashings.

3.2 INSTALLATION

A. General:

1. Lock and seal joints of pre-finished sheet metal.
2. Provide for thermal movement (expansion and contraction) of sheet metal.

3. Where dissimilar metals contact, prevent galvanic action by means of heavy coat of asphalt primer or separate with sheet metal underlayment.
 4. Prime sheet metal surfaces (top and bottom) to receive bituminous materials. Allow primer to dry before application of bituminous materials.
 5. Install metal flanges on top of membrane, adhere and fasten as indicated in detail drawings, specified herein, and in accordance with membrane manufacturer's requirements.
 6. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.
 7. Hem (return) exposed edges for strength and appearance.
 8. Fit sheet metal close and neat.
 9. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.
 10. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning", and buckling.
- B. Sheet Metal Laps (unless otherwise indicated):
1. Notch and lap ends of adjoining sheet metal sections not less than 4 inches; apply sealant tape or two bead of butyl sealant between sections.
 2. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2 inches on center.
- C. Polymer Clad Sheet Metal:
1. Secure flanges of polymer clad sheet metal into roof deck at 12 inches on center.
 2. Sheet Metal Laps:
 - a. Leave a 1/4 inch opening between sheet metal sections.
 - b. Center aluminum tape over joint opening.
 - c. Hot-air weld 4-inch wide strip of stripping membrane over joint.
 - d. At inside and outside corners, lap miters a minimum of 1 inch and rivet at 2 inches on center; strip in with 4-inch wide strip of stripping membrane over joint.
- D. Fasteners:
1. Size and type required.
 2. Fasteners compatible with materials being joined.
 3. Exposed Fasteners:
 - a. Install screws with 5/16-inch predrilled, oversized holes.

- b. Install Concrete and Masonry Anchors with 11/32-inch predrilled, oversized holes.
 - c. Exposed horizontal surface fasteners are not acceptable.
- E. Flange/Sleeve
 - 1. Fabricate flange/sleeve as shown in detail drawings and to fit tightly to pipe penetration.
 - 2. Provide hot-air welded stripping membrane over seams.
 - 3. Strip in flange as specified.
- F. Counterflashing:
 - 1. Fabricate counterflashing as shown in detail drawings in 10 foot lengths.
 - 2. Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. If counter flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
 - 3. Extend counter flashing a minimum of 1.5 inches below base flashing termination.
- G. Through Wall Scupper:
 - 1. Fabricate scupper flange, liner, and faceplate as shown in detail drawings. Scuppers dimensions as indicated in the Contract Drawings with flange extending a minimum of 4 inches on top and sides of scupper and extends a minimum of 4 inches onto the horizontal membrane.
 - 2. Strip in scupper liner as specified.
 - 3. Provide faceplate which extends 1.5 inches around the scupper and secure to wall substrate 12 inches on center with minimum of four fasteners (one in each corner). Set faceplate in a bead of sealant.
 - 4. Extend scupper liner 1 inch beyond the exterior wall face and lock onto faceplate.
- H. Conductor Heads:
 - 1. Fabricate collector heads as shown in detail drawings. Refer to SMACNA (ASMM) Figure 1-25F.
 - 2. Set front edge of collector head 1 inch below scupper.
 - 3. Seal and pop rivet joints. Install beads of sealant inside conductor head at seams and rivets.
 - 4. Lock back edge of conductor head on to through-wall scupper. Refer to SMACNA (ASMM) Figure 1-26A.
- I. Downspouts:
 - 1. Fabricate downspouts in 10 foot lengths. Refer to SMACNA (ASMM) Figure 1-32B.

2. Paint hangers with air dried kynar painted or powder coat to match sheet metal finish of downspouts.
3. Secure downspout to the structure with two-piece hangers spaced no more than 8 foot apart with a minimum of two hangers per downspout with a hanger located within 12 inches from bottom. Refer to SMACNA (ASMM) Figure 1-35H.
4. Fashion downspouts to run back to (at overhangs) and be parallel to the facility walls.
5. Where downspouts discharge onto lower adjacent roof areas, provide splash pans at discharge as specified below. Provide discharge elbow at the base of downspout where it kicks out onto splash pan.
6. Tie downspouts into below grade storm drainage system if present.
 - a. Provide square to round transition to tie into below grade system as necessary.

3.3 CLEANING AND PROTECTION

- A. Clean sheet metal work of asphalt, flux, scrapes and dust.
- B. Replace sheet metal components with scratches through the metal finish.

END OF SECTION

SECTION 07 71 19

MANUFACTURED GRAVEL STOPS AND FASCIAS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Provide factory fabricated and finished roof edging.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections, apply to this Section:
 - 1. Section 06 10 00 - Rough Carpentry
 - 2. Section 07 54 00 - Thermoplastic Single Ply Roofing
 - 3. Section 07 62 00 - Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

- A. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2022.

1.4 PERFORMANCE REQUIREMENTS

- A. ANSI/SPRI/FM 4435/ES-1, Test Methods RE-1 and RE-2 to design pressures listed in the Contract Drawings.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Test Reports: Documentation of performance design pressure.
- D. Shop Drawings: Show profiles, joining method, location of accessory items, anchorage and flashing details, adjacent construction interface, and dimensions.
- E. Samples: Available on request; sized to adequately represent material.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in the manufacturer's original sealed, labeled containers.
- B. Store materials in a dry, protected, well-vented area. Report damaged material to the delivering carrier and note such damage on the carrier's freight bill of lading.

- C. Remove protective plastic surface film after installation.

1.7 PROJECT CONDITIONS

- A. Verify other trades are complete before installing the roof edging.
- B. Verify mounting surfaces are straight and secure and substrates have proper width.
- C. Refer to the construction documents, shop drawings and manufacturer's installation instructions.
- D. Coordinate installation with roof membrane manufacturer's installation instructions.
- E. Observe appropriate OSHA safety guidelines for this work.

1.8 WARRANTY/GUARANTEE

- A. Included in Roof System Warranty as specified in Section 07 54 00 - Thermoplastic Single Ply Roofing:
 - 1. Guarantee roof edge system will not blow off, leak, or cause membrane failure in wind conditions up to 215 mph (extruded aluminum cleat), or the manufacturer will replace its materials for a period of twenty years.
 - 2. Finish Warranty: Thirty (30) years.

PART 2 PRODUCTS

2.1 MANUFACTURER:

- A. Manufacturers:
 - 1. W. P. Hickman Company
 - 2. Metal Era
 - 3. OMG Roofing Products
 - 4. Engineer's accepted equivalent

2.2 ROOF EDGE:

- A. Pre-manufactured Edge Metal: Decorative metal fascia with continuous extruded aluminum bar.
 - 1. Construction:
 - a. Fascia metal gauge: .040 inch thick formed aluminum.
 - b. Aluminum Finish: Standard color Kynar-500 as selected by the Owner from roof edge manufacturer's color chart.
 - c. Fascia: Standard 12 feet lengths.
 - d. Extruded bar: Continuous 6063-T6 alloy aluminum at 12 feet standard lengths with pre-punched slotted holes and welded miters.

- 1) Injection Molded EPDM Bar Splice to allow thermal movement expansion of extruded aluminum anchor bar.
 - 2) Fasteners: 2 inch stainless steel with driver.
- e. Model as required to meet field conditions and Contract Drawings.
- f. Performance:
- 1) Lifetime, 215 mph Wind Warranty.
 - 2) Tested per ANSI/SPRI ES-1 Standard to a design pressure of 290 psf to comply with the International Building Code.
 - 3) Factory Mutual 1-645 approved for wind up lift protection.
 - 4) Miami-Dade Approved (No. 19-0430.02 12/11/23) to comply with the "High Velocity Hurricane Zone of the Florida Building Code".

2.3 ACCESSORIES:

- A. Fabricate corners, end caps, fascia sumps, or spill outs, etc. by the roof edging manufacturer.
1. Provide factory fabricated mitered corners with 12 inch nominal leg lengths.
- B. Provide matching ledge caps, downspouts, or other special fabrications as detailed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify roof edging installation does not disrupt other trades. Verify substrate is dry, clean and free of foreign matter. Report and correct defects prior to installation.

3.2 INSTALLATION

- A. Submit design drawings for review and acceptance by Engineer before fabrication.
- B. Check as-built conditions and verify the manufacturer's roof edging details for accuracy to fit the wall assembly prior to fabrication. Comply with the roof edging manufacturer's installation guide when setting edging.
- C. Use stainless steel screw type fasteners as provided by manufacturer, nominal 1-1/4 inch length, with minimum 240 lb. pull-out resistance; suitable for the substrates to which being installed.
- D. Install waterproof sealant to underside of retainer base plate as recommended and supplied by the roofing membrane manufacturer.

END OF SECTION

SECTION 07 72 33

ROOF HATCHES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide factory-fabricated roof hatches for ladder access.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections, apply to this Section:

1. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.3 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Shop Drawings: Submit shop drawings including profiles, accessories, location, adjacent construction interface, and dimensions.

D. Warranty: Submit executed copy of manufacturer's standard warranty.

1.4 QUALITY ASSURANCE

A. Manufacturer: A minimum of 5 years' experience manufacturing similar products.

B. Installer: A minimum of 2 years' experience installing similar products.

C. Manufacturer's Quality System: Registered to ISO 9001 Quality Standards including in-house engineering for product design activities.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver products in manufacturer's original packaging.

B. Store materials in a dry, protected, well-vented area.

C. Inspect product upon receipt and report damaged material to delivering carrier and note such damage on the carrier's freight bill of lading.

1.6 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's standard warranty against defects in material and workmanship for a period of five years from the date of purchase.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Acceptable Manufacturers:
 - 1. The BILCO Company
 - 2. Nystrom
 - 3. Acudor
 - 4. Engineers Accepted Equivalent

2.2 ROOF HATCH

- A. Type:
 - 1. Type S-50TB (Basis of Design by Bilco)
 - 2. Width: 36 inch
 - 3. Length: 30 inch
 - 4. Length denotes hinge side.
 - 5. Single leaf.
 - 6. Pre-assembled from the manufacturer.
- B. Cover: 11 gauge aluminum with a 5 inch beaded flange with formed reinforcing members. Interior and exterior surfaces shall be thermally broken to minimize heat transfer and to resist condensation. Heavy extruded EPDM rubber gasket bonded to the cover interior to ensure a continuous seal when compressed to the top surface of the curb. 3-inch thick polyisocyanurate cover insulation covered and protected with 18 gauge aluminum liner.
- C. Curb: 12 inch height, 11 gauge aluminum. Thermally broken interior and exterior surfaces to minimize heat transfer and to resist condensation. Formed with a 5-1/2 inch flange with 7/16 inch holes provided for securing to the roof deck. Equipped with an integral metal capflashing of the same gauge and material as the curb, welded at the corners, features the Bil-Clip® flashing system, including stamped tabs, 6 inches on center, bent inward to hold roofing membrane securely in place. 3-inch thick polyisocyanurate curb insulation.
- D. Lifting mechanisms: Provide compression spring operators enclosed in telescopic tubes to provide smooth, easy, and controlled cover operation throughout the arc of opening and closing, not affected by temperature. Outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly. Interlocking lower tube with a flanged support shoe welded to the curb assembly.
- E. Hardware:
 - 1. Heavy stainless steel pintle hinges.
 - 2. Cover equipped with a spring latch with interior and exterior turn handles.
 - 3. Roof hatch equipped with interior and exterior padlock hasps.

4. Stamped latch strike bolted to the curb assembly.
 5. Automatic lock of cover in the open position with a rigid hold open arm equipped with a 1 inch diameter red vinyl grip handle to permit easy release for closing.
 6. Zinc plated and chromate sealed hardware.
 7. Hardware bolted into heavy gauge channel reinforcing welded to the underside of the cover and concealed within the insulation space.
- F. Finish: Factory mill finish aluminum.

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 accordance with manufacturer's instructions and accepted submittals. Locate units level, plumb, and in proper alignment with adjacent work.
1. Test units for proper function and adjust until proper operation is achieved.
 2. Repair finishes damaged during installation.
 3. Restore finishes so no evidence remains of corrective work.
- B. Guardrail System:
1. Install on both new and existing roof hatches mounted to the vertical cap flashing of the roof hatch without penetrating the roof membrane.
 2. Roof hatches without vertical cap flashing thru-bolt the side of the roof hatch and require counterflashing to conceal fasteners.

3.3 ADJUSTING AND CLEANING

- A. Clean exposed surfaces using methods acceptable to the manufacturer which do not damage finish.

END OF SECTION

FORM OF PROPOSAL

[Project Name]

UNCW Suites, Service & Graham Hewlett Connector

Contract: Single Prime

The University of North Carolina at Wilmington

Bidder: _____

SCO-ID #24-29059-01A

Date: _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The bidder further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The Bidder proposes and agrees if this proposal is accepted to contract with the

State of North Carolina through The University of North Carolina at Wilmington

in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of

UNCW Suites, Service and Graham Hewlett Connector Roof Replacement

in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the State of North Carolina through

The University of North Carolina at Wilmington and REI Engineers, Inc.

with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents, for the sum of:

SINGLE PRIME CONTRACT:

Base Bid:

_____ Dollars (\$)_____

General Subcontractor:

Plumbing Subcontractor:

_____ Lic _____

_____ Lic _____

Mechanical Subcontractor:

Electrical Subcontractor:

_____ Lic _____

_____ Lic _____

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

ALTERNATES:

Should any of the alternates as described in the contract documents be accepted, the amount written below shall be the amount to be "added to" or "deducted from" the base bid. (Strike out "Add" or "Deduct" as appropriate.)

Alternate No. 1: N/A

UNIT PRICES

Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the base bid quantity of the work all in accordance with the contract documents.

No. 1. Replace Deteriorated Wood Blocking BF Unit Price (\$)_____

The bidder further proposes and agrees hereby to commence work under this contract on a date to be specified in a written order of the designer and shall fully complete all work thereunder within the time specified in the Supplementary General Conditions Article 23. Applicable liquidated damages amount is also stated in the Supplementary General Conditions Article 23.

MINORITY BUSINESS PARTICIPATION REQUIREMENTS

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A**) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B**) to that effect in lieu of Affidavit (**A**) required above. The MB Participation Form must still be submitted even if there is zero participation.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

*** OR ***

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must always submit **with their bid** the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter none or zero on the form. Affidavit **A** or Affidavit **B**, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

Proposal Signature Page

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of _____

(Name of firm or corporation making bid)

WITNESS:

(Proprietorship or Partnership)

By: _____
Signature

Name: _____
Print or type

Title _____
(Owner/Partner/Pres./V.Pres)

Address _____

ATTEST:

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

License No. _____

Federal I.D. No. _____

Email Address: _____

(CORPORATE SEAL)

Addendum received and used in computing bid:

Addendum No. 1 _____ Addendum No. 2 _____ Addendum No. 3 _____ Addendum No. 4 _____

Identification of HUB Certified/ Minority Business Participation

I, _____,
(Name of Bidder)

do hereby certify that on this project, we will use the following HUB Certified/ minority business as construction subcontractors, vendors, suppliers or providers of professional services.

Firm Name, Address and Phone #	Work Type	*Minority Category	**HUB Certified (Y/N)

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

The total value of minority business contracting will be (\$)_____.

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- 1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- 6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- 9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- 10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

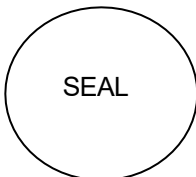
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT contract.

(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

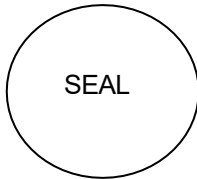
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement. The Bidder agrees to make a Good Faith Effort to utilize minority suppliers where possible.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by HUB Certified/Minority Businesses
 County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by HUB certified/minority businesses as defined in GS143-128.2(g) and 128.4(a),(b),(e) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit.
 This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the _____
 (Name of Bidder)

UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT
 (Project Name)

Project ID#24-29059-01A Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. Attach additional sheets if required

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

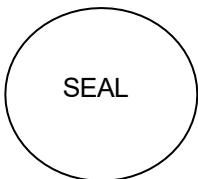
*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____



Signature: _____

Title: _____

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20_

Notary Public _____

My commission expires _____

State of North Carolina AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by HUB Certified/ minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify that on the

(Name of Bidder)

UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT

(Project Name)

Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with HUB certified/ minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. (Attach additional sheets if required)

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- F. Copy of pre-bid roster
- G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- H. Letter detailing reasons for rejection of minority business due to lack of qualification.
- I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

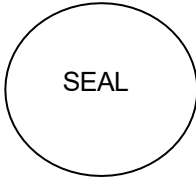
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20_

Notary Public _____

My commission expires _____

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____

_____ as principal, and _____, as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto the State of North Carolina through The University of North Carolina at Wilmington as obligee, in the penal sum of _____ DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this ____ day of _____ 20__

WHEREAS, the said principal is herewith submitting proposal for and the principal desires to file this bid bond in lieu of making the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such, that if the principal shall be awarded the contract for which the bid is submitted and shall execute the contract and give bond for the faithful performance thereof within ten days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so execute such contract and give performance bond as required by G.S. 143-129, the surety shall, upon demand, forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further, that the bid may be withdrawn as provided by G.S. 143-129.1

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

FORM OF CONSTRUCTION CONTRACT

(ALL PRIME CONTRACTS)

THIS AGREEMENT, made the _____ day of _____ in the year of 20__ by and between _____ hereinafter called the Party of the First Part and the State of North Carolina through The University of North Carolina at Wilmington hereinafter called the Party of the Second Part.

WITNESSETH:

That the Party of the First Part and the Party of the Second Part for the consideration herein named agree as follows:

1. Scope of Work: The Party of the First Part shall furnish and deliver all of the materials, and perform all of the work in the manner and form as provided by the following enumerated plans, specifications and documents, which are attached hereto and made a part thereof as if fully contained herein: advertisement; Instructions to Bidders; General Conditions; Supplementary General Conditions; specifications; accepted proposal; contract; performance bond; payment bond; power of attorney; workmen's compensation; public liability; property damage and builder's risk insurance certificates; approval of attorney general; certificate by the Office of State Budget and Management, and drawings, titled:

UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT

Consisting of the following sheets: G-001 Cover, G-002 Code Summary, XR101 Suites & Services Overview, XR102 University Suites Roof Plan, XR103 Services Roof Plan, XR104 Roof Plan Graham Hewlett Connector, XR301 Roof Systems, XR501 Services Details, XR502 Services Details, XR503 Suites Details, XR504 Suites Details, XR505 Graham Hewlett Details

Dated: X and the following addenda:

Addendum No _____ Dated: _____ Addendum No. _____ Dated: _____
Addendum No _____ Dated: _____ Addendum No. _____ Dated: _____

2. That the Party of the First Part shall commence work to be performed under this agreement on a date to be specified in a written order of the Party of the Second Part and shall fully complete all work hereunder by August 8, 2025. For each day in excess thereof, liquidated damages shall be as stated in Supplementary General Conditions. The Party of the First Part, as one of the considerations for the awarding of this contract, shall furnish to the Party of the Second Part a construction schedule setting forth planned progress of the project broken down by the various divisions or part of the work and by calendar days as outlined in Article 14 of the General Conditions of the Contract.

3. The Party of the Second Part hereby agrees to pay to the Party of the First Part for the faithful performance of this agreement, subject to additions and deductions as provided in the specifications or proposal, in lawful money of the United States as follows:

_____)
_____ (\$ _____)

Summary of Contract Award:

Base Bid:	\$	_____
Unit Price No. 1:	\$	_____
Alternate No. 1:	\$	_____
Alternate No. 2:	\$	_____
Total:	\$	_____

4. In accordance with Article 31 and Article 32 of the General Conditions of the Contract, the Party of the Second Part shall review, and if approved, process the Party of the First Party's pay request within 30 days upon receipt from the Designer. The Party of the Second Part, after reviewing and approving said pay request, shall make payments to the Party of the First Part on the basis of a duly certified and approved estimate of work performed during the preceding calendar month by the First Party, less five percent (5%) of the amount of such estimate which is to be retained by the Second Party until all work has been performed strictly in accordance with this agreement and until such work has been accepted by the Second Party. The Second Party may elect to waive retainage requirements after 50 percent of the work has been satisfactorily completed on schedule as referred to in Article 31 of the General Conditions.

5. Upon submission by the First Party of evidence satisfactory to the Second Party that all payrolls, material bills and other costs incurred by the First Party in connection with the construction of the work have been paid in full, final payment on account of this agreement shall be made within thirty (30) days after the completion by the First Party of all work covered by this agreement and the acceptance of such work by the Second Party.

6. It is further mutually agreed between the parties hereto that if at any time after the execution of this agreement and the surety bonds hereto attached for its faithful performance, the Second Party shall deem the surety or sureties upon such bonds to be unsatisfactory, or if, for any reason, such bonds cease to be adequate to cover the performance of the work, the First Party shall, at its expense, within five (5) days after the receipt of notice from the Second Party so to do, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the Second Party. In such event no further payment to the First Party shall be deemed to be due under this agreement until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the Second Party.

7. The Party of the First Part attest that it and all of its subcontractors have fully complied with all requirements of NCGS 64 Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

IN WITNESS WHEREOF, the Parties hereto have executed this agreement on the day and date first above written in 4 counterparts, each of which shall without proof or accounting for other counterparts, be deemed an original contract.

Witness:

(Proprietorship or Partnership)

only)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

(CORPORATE SEAL)

Contractor: (Trade or Corporate Name) _____

By: _____

Title: _____
Owner, Partner, or Corp. Pres. or Vice Pres.

State of North Carolina through

The University of North Carolina at Wilmington _____
(Agency, Department or Institution)

Witness:

By: _____

Title: _____

FORM OF PERFORMANCE BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal
(Contractor) _____

Name of Surety: _____

Name of Contracting
Body: _____

Amount of Bond: _____

Project UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF
REPLACEMENT

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind, ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body, identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the contracting body, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in 4 counterparts.

Witness:

(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

(Corporate Seal)

Contractor: (Trade or Corporate Name)

By: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

(Surety Company)

By: _____

Title: _____
(Attorney in Fact)

Witness:

Countersigned:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

Surety Company Name and N.C.
Regional or Branch Office Address

(Surety Corporate Seal)

FORM OF PAYMENT BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal
(Contractor) _____

Name of Surety: _____

Name of Contracting
Body: _____

Amount of Bond: _____

Project **UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF
REPLACEMENT**

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor/material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in 4 counterparts.

Witness:

(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

(Corporate Seal)

Contractor: (Trade or Corporate Name)

By: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

(Surety Company)

By: _____

Title: _____
(Attorney in Fact)

Witness:

Countersigned:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

Surety Company Name and N.C.
Regional or Branch Office Address

(Surety Corporate Seal)

Sheet for Attaching Power of Attorney

Sheet for Attaching Insurance Certificates

APPROVAL OF THE ATTORNEY GENERAL/APPROVAL OF THE UNIVERSITY
ATTORNEY

STATE OF NORTH CAROLINA
 COUNTY SALES AND USE TAX REPORT
 SUMMARY TOTALS AND CERTIFICATION

CONTRACTOR: _____

Page 1 of

PROJECT: UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR
 ROOF REPLACEMENT

FOR PERIOD: _____

	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL ALL COUNTIES
CONTRACTOR							
SUBCONTRACTOR(S)*							
COUNTY TOTAL							

* Attach subcontractor(s) report(s)
 ** Must balance with Detail Sheet(s)

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

Sworn to and subscribed before me,

This the _____ day of _____, 20____

 Signed

 Notary Public

My Commission Expires: _____

 Print or Type Name of Above

Seal

NOTE:
 This certified statement may be subject to audit.

STATE OF NORTH CAROLINA
SALES AND USE TAX REPORT DETAIL

CONTRACTOR: _____

Page 2 of _____

SUBCONTRACTOR _____

FOR PERIOD: _____

PROJECT: UNCW SUITES, SERVICE & GRAHAM
HEWLETT CONNECTOR ROOF
REPLACEMENT

PURCHASE DATE	VENDOR NAME	INVOICE NUMBER	TYPE OF PROPERTY	INVOICE TOTAL	COUNTY TAX PAID	COUNTY OF SALE *
				\$	\$	
				TOTAL:	\$	

* If this is an out-of-state vendor, the County of Sale should be the county to which the merchandise was shipped.

SECTION 316

Owner

Designer

Contractor Code _____ Item _____

Surety

Other

CONTRACTOR'S

AFFIDAVIT OF

RELEASE OF LIENS

For Use with State of North Carolina Projects

TO: (OWNER)

UNC Wilmington
601 South College Road
Wilmington, NC 28403

CONTRACT FOR: Single Prime General Construction

CONTRACT DATE:

SCO PROJECT ID: 24-29059-01A

PROJECT Name and Location: UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT, 5220 Suite Service Loop, Wilmington, NC 28403

State of: _____

County of: _____

The undersigned, pursuant to Article 36 of the General Conditions of the Contract, hereby certifies that to the best of his knowledge, information and belief, the Releases or Waivers of Lien attached hereto include the contractor, all subcontractors, all suppliers of materials and equipment, and all performers of work, labor or services who have or may have liens against any property of the owner arising in any manner out of the performance of the contract referenced above.

SUPPORTING DOCUMENTS

CONTRACTOR: _____

ATTACHED HERETO:

Address: _____

By: _____

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

Signature Notary Public: _____

Printed Name of Notary Public: _____

My Commission Expires: _____

Owner

Designer

Contractor Code _____ Item _____

Surety

Other

CONTRACTOR'S

AFFIDAVIT OF PAYMENT

OF DEBTS AND CLAIMS

For Use with State of North Carolina Projects

TO (OWNER)

UNC Wilmington
601 South College Road
Wilmington, NC 28403

CONTRACT FOR: Single Prime General
Construction

CONTRACT DATE:

PROJECT INFORMATION:

Name & Location:

UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT, 5220 Suite Service Loop,
Wilmington, NC 28403 _

State of: _____

County of: _____

The undersigned, pursuant to Article 36 of the General Conditions of the Contract, hereby certifies that, he has paid in full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor and services performed, and for all known indebtedness and claims against the contractor for damages arising in any manner in connection with the performance of the contract referenced above for which the owner or his property might in any way be held responsible.

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever surety is involved, Consent of Surety is required.

Indicate attachment: (yes) (no).

The following supporting documents should be attached hereto if required by the owner:

- a. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
- b. Separate Releases or Waivers of Liens from subcontractors and material and equipment suppliers to the extent required by the owner, accompanied by a list thereof.
- c. Contractor's Affidavit of Release of Liens.

CONTRACTOR: _____

Address: _____

By: _____

Subscribed and sworn to before me this __day of _____ 20__

Signature of Notary Public: _____

Printed Name of Notary Public: _____

My

Commission

Expires:

Owner

Designer

Contractor SCO ID # _____

Surety

Other

CONSENT OF SURETY

COMPANY TO FINAL

PAYMENT

For Use with State of North Carolina Projects

PROJECT Name & Location: UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT, 5220 Suite Service Loop, Wilmington, NC 28403

TO: (OWNER)

UNC Wilmington
601 South College Road
Wilmington, NC 28403

CONTRACT FOR: Single Prime General Construction

CONTRACT DATE:

CONTRACTOR: _____

In accordance with the provisions of the contract between the owner and the contractor as indicated above, the (here insert name and address of surety company)

_____ (SURETY COMPANY)

on bond of (here insert name and address of contractor)

_____ (CONTRACTOR)

hereby approves of the final payment to the contractor, and agrees that final payment to the contractor shall not relieve the surety company of any of its obligations to (here insert name and address of owner)

UNC Wilmington, 601 South College Road, Wilmington, NC 28403 (OWNER)

as set forth in said surety company's bond.

IN WITNESS WHEREOF,

the surety company has hereunto set its hand this ___ day of _____ 20

Surety Company

Signature of Authorized Representative

Attest: _____

Title

(Visible Seal):

ROOF MANUFACTURER'S ACKNOWLEDGMENT

PART 1 GENERAL

1.1 FROM:

- A. Roofing Contractor: _____
- B. Address: _____
- C. Phone: _____ Email: _____

1.2 FOR:

- A. Owner: UNCW
- B. Project: **UNCW SUITES, SERVICE & GRAHAM HEWLETT CONNECTOR ROOF REPLACEMENT**
- C. REI Project No. 025WLM-004
- D. Address: 5220 Suite Service Loop Road, Wilmington, NC 28403

1.3 ACKNOWLEDGEMENT

- A. This is to advise the Owner that having thoroughly reviewed the Specifications and Drawings contained within the Project Manual dated **MM-dd-yyyy**, the above-titled project, we acknowledge that the roof system(s) and flashing system(s) specified are suitable for the issuance of the specified Manufacturer's warranty on this project and have been tested and approved for the wind uplift pressures and specified external fire resistance rating outlined in the project specifications. Having reviewed the project requirements in detail, the Manufacturer will provide a written response of exceptions or exclusions to the Engineer through the contractor as otherwise outlined in the Advertisement or Invitation for Bids, if conflicts exist between the Manufacturer's warranty requirements and the above listed documents. Exceptions not submitted accordingly are subject to rejection. The manufacturer also certifies that the installer is approved, authorized, or licensed by the manufacturer to install the specified roof system and is eligible to provide the specified manufacturer's warranty. The manufacturer will comply with the specified requirements for on-site technical support.

1.4 EXECUTED BY:

- A. Manufacturer's Company Name: _____
- B. Designated Reviewer Name and Title: _____
- C. Signature: _____ Date: _____

END OF SECTION

ASBESTOS TEST RESULTS

SECTION 00 62 33

ROOF MANUFACTURER'S ACKNOWLEDGMENT

PART 1 GENERAL

1.1 FROM:

- A. Roofing Contractor: _____
- B. Address: _____
- C. Phone: _____ Email: _____

1.2 FOR:

- A. Owner: UNC Wilmington
- B. Project: UNCW Suites, Service and Graham Hewlett Connector Roof Replacement
- C. REI Project No.: R25WLM-004
- D. Address: 5220 Suite Service Loop Wilmington, North Carolina 28403

1.3 ACKNOWLEDGEMENT

- A. This is to advise the Owner that having thoroughly reviewed the Specifications and Drawings contained within the Project Manual dated MM-dd-yyyy, the above-titled project, we acknowledge that the roof system(s) and flashing system(s) specified are suitable for the issuance of the specified Manufacturer's warranty on this project and have been tested and approved for the wind uplift pressures and specified external fire resistance rating outlined in the project specifications. Having reviewed the project requirements in detail, the Manufacturer will provide a written response of exceptions or exclusions to the Engineer through the contractor as otherwise outlined in the Advertisement or Invitation for Bids, if conflicts exist between the Manufacturer's warranty requirements and the above listed documents. Exceptions not submitted accordingly are subject to rejection. The manufacturer also certifies that the installer is approved, authorized, or licensed by the manufacturer to install the specified roof system and is eligible to provide the specified manufacturer's warranty. The manufacturer will comply with the specified requirements for on-site technical support.

1.4 EXECUTED BY:

- A. Manufacturer's Company Name: _____
- B. Designated Reviewer Name and Title: _____
- C. Signature: _____ Date: _____

END OF SECTION

SECTION 00 65 36

CONTRACTOR'S WARRANTY

PART 1 GENERAL

1.1 WARRANTY

- A. Know all men by these presents, that we, _____ (Contractor), having installed roofing system, flashings and sheet metal on the UNCW Suites, Services, GH Connector under contract between UNC Wilmington and Contractor, warrant to the Owner with respect to said work that for the period of 2 years from date of final acceptance of _____, 20____, the work shall be watertight and free from defects, provided however the following are excluded from this Warranty: 1) defects or failures resulting from abuse by the Owner, 2) damages caused by fire, tornado, hail, hurricane, acts of God, wars, vandalism, riots or civil commotion, and 3) defects in design involving failure of structural frame, load bearing walls, and/or foundations. We agree that should any leaks occur in the work we will perform emergency repairs within 24 hours' notice and perform permanent repairs promptly in a manner to restore the work to a watertight condition by methods compatible to the system, acceptable under industry standards and general practice, and acceptable to the Manufacturer, all at no expense to the Owner. We further agree that for the period specified below, we will make repairs at no expense to the Owner to defects which may develop in the work in a manner compatible to the system, acceptable under industry standards and general practice as established by the Engineer and acceptable to the Manufacturer.

- B. We agree to attend one post construction field inspection no earlier than one month prior to the Contractor's Warranty expiration date and to complete corrective actions requested by Owner, Engineer, or Manufacturer at no additional cost to the Owner.

1.2 EXECUTED BY

- A. Contractor: _____
- B. Authorized Officer Name and Title: _____
- C. Signature: _____ Date: _____

1.3 NOTARIZED BY:

- A. I, _____ (print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this ____ day of _____, 20 _____. My commission expires ___ of _____, 20 ____.

- B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION

SECTION 00 65 37

ASBESTOS FREE WARRANTY

PART 1 GENERAL

1.1 FOR

- A. Owner: UNC Wilmington
- B. Project: UNCW Suites, Service and Graham Hewlett Connector Roof Replacement
- C. Project Address: 5220 Suite Service Loop Wilmington, North Carolina 28403

1.2 WARRANTY

- A. Date of Final Acceptance: _____
- B. Know all men by these presents, that we, _____ (Contractor) having furnished labor, materials, equipment and/or supplies, removed existing roof system; installed new roof system and/or miscellaneous components; from, to and/or on the above referenced project under contract between the Owner and Contractor, warrant to Owner with respect to said work that no materials containing asbestos fibers were incorporated into the work, and that, to our knowledge and belief, no materials containing asbestos remain in or are covered by the work.
- C. Exceptions: _____ If there are no exceptions, state "None".

1.3 EXECUTED BY

- A. Contractor: _____
- B. Authorized Signing Officer Name: _____
- C. Authorized Signing Office Title: _____
- D. Signature: _____ Date: _____

1.4 NOTARIZED BY:

- A. I, _____ (print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this _____ day of _____, 20 _____. My commission expires ____ of _____, 20 ____.
- B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION