

PROJECT TITLE PAGE

PROJECT MANUAL

FOR



**NORTH CAROLINA PORTS AUTHORITY
2202 BURNETT BLVD.,
WILMINGTON, NC 28401
SCO ID# 23-27381-01A**

**T2-MHC ROOF REPLACEMENT
113 ARENDELL STREET
MOREHEAD CITY, NORTH CAROLINA 28557
REI ENGINEERS, INC. PROJECT NO. 023WLM-020**

DATE: NOVEMBER 17, 2023

PREPARED BY:

**REI ENGINEERS, INC.
2708-A EXCHANGE DRIVE, WILMINGTON, NC 28405
NC FIRM LICENSE # C-1520**

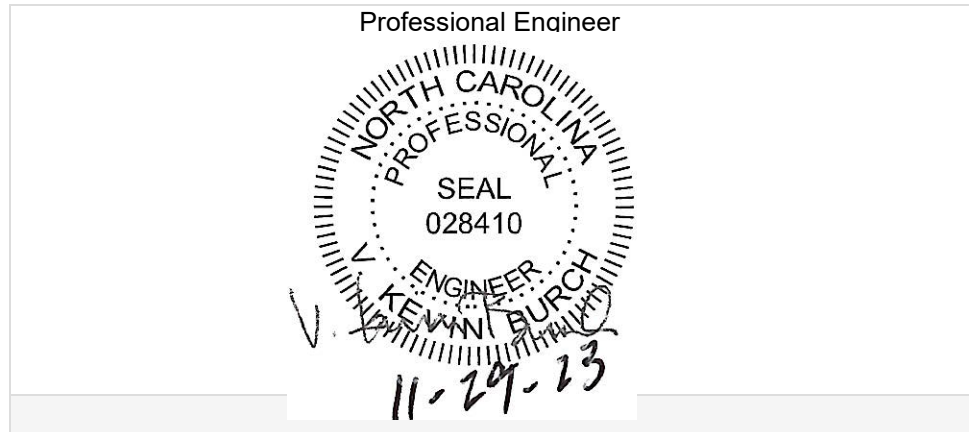
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SEALS PAGE

PART 1 GENERAL

1.01 SUMMARY

- A. Design Firm for T2-MHC Roof Replacement with Project Manual dated November 17, 2023:
1. REI Engineers, Inc., 2708-A Exchange Drive, Wilmington, NC 28405.
 2. North Carolina Firm License C-1520



END OF SECTION

SECTION 00 11 13

ADVERTISEMENT FOR BIDS

PART 1 - GENERAL

1.1 PROJECT INFORMATION

- A. Project Name: T2-MHC Roof Replacement
- B. Project Address: 113 Arendell Blvd., Morehead City, NC 28557
- C. Owner: North Carolina Ports Authority
- D. General Scope of Work: Roof Replacement

1.2 BIDS

- A. Sealed bids for the project will be received from bidders by the Owner at 2202 Burnett Blvd, Wilmington, NC 28401, until 3:00 PM on February 29, 2024, at which time they will be publicly opened and read.

1.3 PROJECT DOCUMENTS

- A. Electronic project documents may be obtained from the Engineer, REI Engineers, Inc., 1705-A Exchange Dr., Wilmington, NC 28405, @ kburch@reiengineers.com at no cost.

1.4 BIDDING REQUIREMENTS

- A. All bidders are hereby notified that they shall be properly licensed under the state laws governing their trades.
- B. Refer to Section 00 21 13 "Instructions to Bidders" for bid security and bonding requirements.
- C. Submit questions to REI Engineers in writing to the email address listed above no later than 5:00 PM on February 22, 2024.

1.5 PRE-BID MEETING

- A. A Pre-Bid Meeting is scheduled for 10:30 AM on February 15, 2024, at 113 Arendell Street, Morehead City, NC 28557.
- B. Attendance is recommended.
- C. Attendance is mandatory.

END OF SECTION

NOTICE TO BIDDERS

Sealed proposals will be received by the North Carolina Ports Authority at 2202 Burnett Blvd., Wilmington, NC 28401 up to 3:00 pm on **February 29**, 2024 and immediately thereafter publicly opened and read for the furnishing of labor, material and equipment entering into the construction of T2-MHC Roof Replacement.

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

Pre-Bid Meeting

An open pre-bid meeting will be held for all interested bidders at 10:30 AM on **February 15th**, 2024 at 113 Arendell St., Morehead City, NC 28557. 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 Engineer, REI Engineers, Inc. at 2708-A Exchange Drive, Wilmington, NC 28405 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. Send plan request to kburch@reiengineers.com.

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:
REI Engineers, Inc. _____
(Name)

Owner:
NC Ports Authority _____
(Agency/Institution)

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20. Contractor's Guarantee

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LIST OF DRAWINGS

PART 1 GENERAL

1.01 SUMMARY

A. The following drawings dated November 17, 2023 are included as part of the Contract Documents:

1. G-001 Cover
2. G-002 Building Code Summary
3. XR101 Roof Plan
4. XR102 Roof Wind Uplift Plan
5. XR301 Roof Systems
6. XR501 Details
7. XR502 Details
8. XR503 Details
9. XR504 Details

END OF SECTION

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

STANDARD FORM FOR CONSTRUCTION PROJECTS

**STATE CONSTRUCTION OFFICE
NORTH CAROLINA
DEPARTMENT OF ADMINISTRATION**

Form OC-15

This document is intended for use on State capital construction projects and shall not be used on any project that is not reviewed and approved by the State Construction Office. Extensive modification to the General Conditions by means of “Supplementary General Conditions” is strongly discouraged. State agencies and institutions may include special requirements in “Division 1 – General Requirements” of the specifications, where they do not conflict with the General Conditions.

Twenty Fourth Edition January 2013

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 bidder's 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 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 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 his 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 State Construction Office.

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 and the State Construction Office.
- 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 info will 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. 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 State of North Carolina, and is distributed by, through and at the discretion of the State Construction Office, Raleigh, North Carolina, for that distinct and sole purpose.

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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 drawing 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 attorney general; 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, designer and the owner, and approved by the State Construction Office, 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, owner, and State Construction Office.
- 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 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 can not 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 approval of 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 to the owner's project requirements and 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 NC Building Codes and approved plans and specifications.
- aa. **Beneficial Occupancy** is requested by the owner and is occupancy or partial occupancy of the building after all life safety items have been completed as determined by the State Construction Office. Life safety items include but not limited to fire alarm, sprinkler, egress and exit lighting, fire rated walls, egress paths and security.
- bb. Final Acceptance is the date in which the State Construction Office accepts the construction as totally complete. This includes the SCO Final Inspection and certification by the designer that all punch lists are completed.

ARTICLE 2 - INTENT AND EXECUTION OF DOCUMENTS

- a. The drawings and specifications are complementary, one to the other, and 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 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 three (3) copies (1 for the Designer, 1 for the owner and 1 for SCO) 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, 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 owner. 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 approves.
- e. The designer is the judge of equality for proposed substitution of products, materials or equipment.

- g. 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 to 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.
- d. 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.
- e. Projects involving local funding (community colleges) are subject also to county and municipal building codes and inspection by local authorities. The contractor shall pay the cost of these permits and inspections.

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 person 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 correcting 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 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 designer, special inspector and/or State Construction Office prior to being covered by the contractor. Contractor shall give a minimum two weeks notice unless otherwise agreed to by all parties. If inspection fails, after the first reinspection all costs associated with additional reinspections 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 or 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 progress conference. Owner will determine 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 punchlist(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 punchlist(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. On contracts with a price over \$2,500,000, the CPM schedule shall also show what part of the Contract Price is attributable to each activity on the schedule, the sum of which for all activities shall equal the total Contract Price.

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 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 State Construction Office and other prime contractors. The designer shall determine the contractor(s) who caused the delays and 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 expeditor'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 Superintendent shall not be employed on any other project for or by the Contractor or by any other entity during the course of the Work. If the Superintendent is employed by the Contractor on another project without the Owner's approval, then the Owner may deduct from the Contractor's monthly general condition costs and amount representing the Superintendent's cost and shall deduct that amount for each month thereafter until the Contractor has the Superintendent back on the Owner's Project full-time.

ARTICLE 15 - SEPARATE CONTRACTS AND CONTRACTOR RELATIONSHIPS

- a. Effective from January 1, 2002, Chapter 143, Article 8, was amended, to allow public contracts to be delivered by the following 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 and 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, owner and to the State Construction Office 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 or owner, the designer or owner shall submit his reasons for disapproval in writing to the State Construction Office for its consideration with a copy to the contractor. If the State Construction Office concurs with the designer's or owner's recommendation, the contractor shall submit a substitute for approval. The designer and owner 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 or owner.
- 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. He 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 approved change order or written field order from the designer, countersigned by the owner and the state construction office authorizing such change. No claim for adjustments of the contract price shall be valid unless this procedure is followed.

A field order, transmitted by fax, electronically, 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 under either Method "c(1)" or Method "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, Owner and State Construction Office the value of the change shall be computed by application of unit prices based on quantities, estimated or actual as agreed of 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 Methods "c(2)" above, the allowances for overhead and profit combined shall be as follows: all contractors (the single contracting entity (prime), his subcontractors (1st tier subs), or their sub-subcontractors (2nd tier subs, 3rd tier subs, etc)) shall be allowed a maximum of 10% on work they each self-perform; the prime contractor shall be allowed a maximum of 5% on contracted work of his 1st tier sub; 1st tier, 2nd tier, 3rd tier, etc contractors shall be allowed a maximum of 2.5% on the contracted work of their subs. ; Under Method "c(1)", no additional allowances shall be made for overhead and profit. In the case of deductible change orders, under Method "c(2)" and Paragraph (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; 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 lack of proper submittal by the contractor of all required supporting data shall not constitute grounds for a time extension or basis of 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 signature. The owner shall execute the change order and forward to the State Construction Office for final approval, within seven (7) days of receipt. The State Construction Office shall act on the change order within seven (7) days. 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 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, with the approval of the State Construction Office, 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 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 e. above. Without prejudice, nothing in this paragraph shall preclude the owner from performing or to have 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 without delay. 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 that complies with the requirements of (a) above by the contractor and is denied by the designer or owner, and cannot be resolved by a

representative of the State Construction Office, the contractor may request a mediation in connection with GS 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 claim as a result of mediation, the contractor may pursue the claim in accordance with the provisions of G.S. 143-135.3, or G.S. 143-135.6 where Community Colleges are the owner, and the following:

1. A contractor who has not completed a contract with a board 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 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 a board 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 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 board'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 State Construction Office, 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, fire, 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 delays. 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, copies to the owner and SCO, within twenty (20) days following cause of delay. In case of continuing cause for delay, the Contractor shall notify the Designer to the designer, copies to the owner and SCO, of the delay within 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 the completion of the project.
- b. Should the owner request a utilization of a building or portion thereof, the designer shall perform a designer final inspection of 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, then 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 State Construction Office, in such areas the following will be established:
 - 1. The beginning of guarantees and warranties period for the equipment necessary to support. in the area.
 - 2. The owner assumes all responsibilities for utility costs for entire building.
 - 2. Contractor will obtain consent of surety.
 - 3. 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 SCO final inspection. Prior to 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 and State Construction Office representative shall make one of the following determinations:
 - 1. That the project is completed and accepted.
 - 2. That the project will be accepted subject to the 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.
 - 4. 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.
- f. 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.
- g. **Prior to issuance of final acceptance date, the contractor shall have his authorized representatives visit the project and give full instructions to the designated personnel regarding operating, maintenance, care, and adjustment of all equipment and special construction elements. In addition, the contractor shall provide to 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. Contractor shall correct or make good any defects due thereto and repair any damage resulting there from, 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 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 the State Construction Office 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, owner and the State Construction Office 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, owner and SCO 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, the owner and the State Construction Office 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 anytime. Bond, security and insurance protection shall continue to be the responsibility of the contractor(s).
- e. In the event of beneficial occupancy, retainage of funds due the contractor(s) may be reduced with the approval of the State Construction Office 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 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 subs 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 State Construction Office 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 secretary of the Department of Administration 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 Contractor's general conditions costs set forth in the approved schedule of values, if Contractor has failed to comply with: (1) a request to access its records by Owner's internal auditors pursuant to Article 52; (2) a request for a plan of action and/or recovery schedule under Article 14.j or provide The Owner; (3) a request to provide an electronic copies of Contractor's baseline schedule, updates with all logic used to create the schedules in the original format of the scheduling software; and (4) Contractor's failure to have its Superintendent on the Project full-time; (
 - 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 coverages 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 sub-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 maybe 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. 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. 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 Project Expediter's 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 Project Expediter 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 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 final acceptance of work by the State Construction Office, 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 and site work 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 Project Expediter 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 Project Expediter 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 Project Expediter 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 Project Expediter's bid.
 - l. The Project Expediter 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 Project Expediter. The Project Expediter shall provide an on site 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 Project Expediter shall broom clean the building as required to minimize dust and dirt accumulation.
- b. The Project Expediter 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 there from, 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 as of April 1, 1991 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 contractor(s) 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 businesses 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 into 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 N.C. Gen. Stat. § 133-32, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, subcontractor, supplier, vendor, etc.), to make gifts or to give favors to any State employee. This prohibition covers those vendors and contractors who: (1) have a contract with a governmental agency; or (2) have performed under such a contract within 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 G.S. Sec. 133-32.

During the construction of the Project, 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 employee that may have any involvement, influence, responsibilities, oversight, management and/or duties that pertain to and/or relate to the contract administration, financial administration and/or disposition of claims arising from and/or relating to the Contract and/or Project.

ARTICLE 52 – AUDITING-ACCESS TO PERSONS AND RECORDS

In accordance with N.C. General Statute 147-64.7, the State Auditor shall have access to Contractor's officers, employees, agents and/or other persons in control of and/or responsible for the Contractor's records that relate to this Contracts 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 loss 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 Owner and/or its project representatives.

ARTICLE 53 – NORTH CAROLINA FALSE CLAIMS ACT

The North Carolina False Claims Act ("NCFCA"), N.C Gen. Stat. § 1-605 through 1-618, applies to this Contract. The Contractor should familiarize itself with the entire NCFCA and should seek the assistance of an attorney if it has any questions regarding the NCFCA and its applicability to any requests, demands and/or claims for payment its submits to the State through the contracting state agency, institution, university or community college.

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 the NCFCA may arise from, but is not 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 loss 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 or claims, and/or any other request for payment from the State through the contracting state agency, institution, university or community college. 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 to 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(c).)

Finally, the contracting state agency, institution, university or community college 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

Owner may at any time and for any reason terminate Contractor's services and work at Owner's convenience. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

Upon such termination, 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 Contractor as are permitted by the prime contract and approved by 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 Contractor prior to the date of the termination of this Agreement. Contractor shall not be entitled to any claim or claim of lien against Owner for any additional compensation or damages in the event of such termination and payment.

SUPPLEMENTAL GENERAL CONDITIONS

The following modify the January 2013, 24th Edition of the General Conditions of the Contract, Form OC-15 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 Ports Authority.
- 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 within 120 consecutive calendar days.
2. For each day in excess of the above number of days, the Contractor shall pay to the Owner the sum of \$500.00 per 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 metal roofing coating system against cracking, flaking or peeling (loss of adhesion) to an extent that is apparent on ordinary outdoor visual observation and warrant against chalking in excess of ASTM D-4214 method A number eight (8) rating and against color change in excess of five (5.0) Hunter E units as determined by ASTM method D-2244. The warranties shall be 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 SUPPLAMENTAL 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: T2-MHC 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)

SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Name: T2-MHC Roof Replacement
- B. Project Address: 113 Arendell Street, Morehead City, North Carolina 28557
- C. Owner: North Carolina State Ports Authority
- D. Engineer: The Contract Documents, dated November 17, 2023, 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:
 - 1. Roof Sections A and B:
 - a. Remove and dispose of the roof system including ridge vents, flashings and sheet metal down to the existing steel purlin framing.
 - b. Provide new steel purlins, gutter support framing and wall girts in the areas indicated.
 - c. Remove and dispose of the existing interior gutter membrane liner and insulation/sheathing boards down to the existing steel gutter liner.
 - d. Remove and dispose of the existing conductor heads.
 - e. Provide a new steel gutter liner, cover board and thermoplastic gutter liner and associated flashings at the interior gutters.
 - f. Provide new exterior mounted gutters and downspouts at Roof Section B as specified in Section 07 41 13 "Metal Roof Panels".
 - g. Provide new conductor heads and reconnect to the existing vertical leaders.
 - h. Provide vinyl face batt insulation and thermal spacers over zee purlins.
 - i. Provide new exposed fastener metal roof panel system along with flashings, ridge vent, trim and accessories as specified in Section 07 41 13 "Metal Roof Panels".
 - j. Provide a manufacturer's 20 year metal panel finish warranty and contractors 2 year warranty.
- F. 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, to the existing building are maintained at all times during normal working hours. Any shutdowns or interruptions shall be coordinated with and approved by the owner.

- G. 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.
- H. Prior to excavation, coordinate with designated Owner personnel all known utility locations. Provide utility locate and mark location of utilities on the ground. The Contractor remains responsible for protecting existing utilities from damage.

1.2 ASBESTOS CONTAINING ROOFING MATERIALS (ACRM):

A. Sample Testing Results:

- 1. No materials were sampled or tested for asbestos testing.

B. During the process of the work, should the Contractor encounter any material identified as asbestos, or be suspect of containing asbestos, he shall immediately initiate the required procedures of the Environmental Protection Agency (EPA), and/or state or local agencies having jurisdiction, which include, but are not necessarily limited to, the following:

- 1. Initiate procedures for the protection of any and all persons exposed to the affected areas or adjacent areas affected thereby.
- 2. On behalf of the Owner the Contractor shall secure quotations for the Owner's approval to engage the services of a licensed industrial hygienist to perform an asbestos identification survey, the purpose of which is to:
 - a. Verify presence of asbestos.
 - b. Determine the type of asbestos.
 - c. Make asbestos exposure assessments.
 - d. Make any other tests required to comply with EPA requirements not specifically noted herein.
 - e. Determine the scope of the Project required to be corrected.
 - f. Make recommendations with respect to possible corrective actions which the Owner may take, i.e., encapsulation and/or removal and disposal, as may be required.
- 3. Upon consultation with the Owner and the Architect, and upon determination of corrective actions to be taken, instruct the hygienist to prepare a specification in sufficient detail to outline the procedures required by EPA, for encapsulation, and/or removal and disposal, as the case may be, so as to furnish the Contractor with sufficient information to bid competitively the remedial work by specialty Contractors engaged in the encapsulation or elimination of asbestos material, based on an identified scope of work.
- 4. During the corrective process, require the hygienist to review the Contractor's procedures for compliance with EPA, state and local requirements, make such test as may be required and, at the conclusion of the work, certify that the area is free and clear of asbestos materials and particles in the air.

5. Secure quotations, for approval by the Owner, from specialty Contractors to perform the corrective work determined by the hygienist. The quotations shall include both time required and cost. In addition to the above, the Contractor shall submit itemized quotations for the replacement of any insulation or other asbestos containing materials removed, with insulation or other materials selected by the Architect, together with any other associated cost for replacement of materials and finishes necessarily removed to accommodate removal of asbestos materials, and time extensions allowed by the specifications.
 6. Owner approved quotations for the hygienist and for corrective work to be performed will be incorporated into the Contract by Change Order.
- C. The Environmental Protection Agency's (EPA's) National Emission Standards for Hazardous Air Pollutants (NESHAP) require an asbestos inspection and a ten (10) working day notification prior to demolition and renovation of all commercial, institutional, or industrial facilities. This excludes residential buildings with four (4) or fewer dwelling units. NESHAP also applies to the demolition of all residences which are being demolished for commercial, institutional, or industrial purposes. Notification of all demolitions is required whether or not the structures are found to contain asbestos.
- D. If an inspection, conducted by a North Carolina accredited asbestos inspector, confirms that a facility contains at least 160 square feet, 260 linear feet, or 35 cubic feet, of Regulated Asbestos Containing Materials (RACM), then these materials are to be removed prior to starting the renovation or demolition activity. When removal of RACM is required, a notification and a removal fee shall be submitted as part of the notification process. The notification and the removal fee, when applicable, shall be submitted to the Asbestos Hazard Management Branch. The removal of RACM shall be conducted by North Carolina asbestos accredited individuals.
- E. Please note that Forsyth, Buncombe/Haywood, and Mecklenburg Counties have local NESHAP programs and should be contacted directly for local requirements.

1.3 RELATED DOCUMENTS

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

1.4 CONTRACT

- A. Project constructed under a single prime general construction contract.

1.5 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and CSI/CSC's "MasterFormat" 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. Consult the Table of Contents at the beginning of the Project Manual.
- 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

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 WORK SEQUENCE

- A. Conduct work in the following sequences unless construction phases are otherwise specified.
1. 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.
 2. 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.
 3. 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.

1.4 WORK RESTRICTIONS

- A. Work hours generally performed during normal business hours. 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.

1.5 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.

1.6 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.

1.7 USE OF SITE:

- A. Driveways and Entrances:
 - 1. Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles.
 - 2. Do not use these areas for parking or storage of materials.
 - 3. Schedule deliveries to minimize use of driveways and entrances.
- B. Move stored materials and equipment that interfere with operations of the Owner.
- C. Truck and equipment access:
 - 1. 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.
 - 2. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.
- D. Contractor's vehicles:
 - 1. 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.
 - 2. Do not permit such vehicles to park on street or other area of the Owner's property except in the designated area.

1.8 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. 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, its contents, or surface improvements resulting from, or attributable to, the work operation.
- E. Indoor Air Quality:
 - 1. Coordinate with the facility personnel to identify the area where roof 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 on rooftop during roof application to move and circulate air away from intakes and units.
5. Where HVAC equipment is required to remain operational during roof work, coordinate with facility personnel to cover air intakes with charcoal filters prior to beginning work. Facility personnel to provide and install the charcoal filters on affected equipment.
6. When starting roof 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 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 05 01 30 "Steel Gutter Repair"
2. Section 05 12 00 "Structural Steel"
3. Section 06 10 00 "Rough Carpentry"
4. Section 07 01 50 "Preparation for Reroofing"
5. Section 07 22 16 "Roof Insulation"

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, 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. Provide new 8Zx3.5 12 Gauge Steel Purlin located as closely to existing as possible and remove any loose steel from existing purlins. Weld new purlin as noted in project Drawings. Unit of Measurement: Linear Foot (LF). Refer to Section 05 12 00 "Structural Steel".
 - 2. Remove and replace deteriorated MC3x7.1 steel channel to support interior gutter. Unit of Measurement: Linear Foot (LF). Refer to Section 05 12 00 "Structural Steel".

END OF SECTION

SECTION 01 31 19

PROJECT MEETINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - a. Project schedule
 - b. Project meetings

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. Emergency contact list: Key personnel including home, office and mobile numbers, for the following:
1. Owner
 2. Contractor
 3. Subcontractor(s)
 4. Engineer
- B. Work schedule:
1. Indicate start date, crew size, production rate, completion date, etc.
 2. Provide illustrated schedule on an aerial map.

1.4 PROJECT MEETINGS

A. Pre-Construction Meeting

1. A Pre-Construction Meeting will be scheduled as soon as possible after the award of the contract.
2. The Engineer's Representative will compile minutes of the meeting and will furnish a copy of the minutes to each person present.
3. Attendance:
 - a. Project Manager
 - b. Job Superintendent

- c. Job Foreman
 - d. Subcontractors' Representative
 - e. Owner
 - f. Engineer's Representative
 - g. Manufacturer's representatives
 - h. SCO Project Monitor
 - 4. Meeting will follow SCO Preconstruction Conference Agenda
- B. Progress Meetings:
- 1. Prior to the meeting, Contractor shall provide the Engineer a completed and updated Monthly Progress Report and Project Schedule Summary on SCO Forms.
 - 2. Attend monthly progress meetings for the purpose of informing the Owner and the Engineer regarding the status of the project.
 - 3. The Engineer will compile minutes of the meeting and will furnish a copy of the minutes to each person present.
 - 4. Attendance:
 - a. Project Manager
 - b. Job Superintendent
 - c. Job Foreman
 - d. Subcontractors' Representative
 - e. Owner
 - f. Engineer's Representative
 - g. SCO Project Monitor
 - 5. Meeting will follow SCO Monthly Construction Conference Agenda.
- C. Preliminary Final Inspection Meeting
- 1. Upon notification from the Contractor that the project is complete, the Designer will make a preliminary final inspection of the project. The Designer shall prepare a list of discrepancies as a punch list for the contractors.
 - 2. A copy of the punch list will be sent to the State Construction Office prior to scheduling the final inspection.
- D. Final Inspection Meeting

1. Upon notification by the Contractor that the discrepancies (punch list items) have been completed, the Designer shall verify the completeness of the project and schedule a formal final inspection with the Contractor, Owner and SCO Project Monitor.

END OF SECTION

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.
 - a. Submit 3 hard copies of final accepted submittals to Engineer in accordance with Article 5 of the General Conditions for additional information for shop drawings, submittals, samples and data.

- C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below, commencing on Engineer's 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.
2. Submit final hard copies in a labeled three ring binder with tabs 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 manufacturer's 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 Contractor's 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 (for final hard copy submittal, provide tabs for each submittal item) to meet the requirements specified herein:
 - 1. Owner/Contractor Agreement:
 - a. Copy of Executed Owner/Contractor Agreement
 - b. Copy of Contractors Insurance Certificate
 - 2. Roof Manufacturer's Acknowledgment Form
 - 3. Section 01 31 19 "Project Meetings"
 - 4. Sample Application for Payment and Schedule of Values
 - a. Application for Payment Cover on AIA G702.
 - b. A schedule of values on AIA G703 Continuation Sheet consisting of a detailed breakdown of the Contract amount showing separate figures for labor and materials. The work listed under the various sections and subsections of the Specifications serve as the format for preparation of the Schedule of Values.
 - 5. List of Materials: List of materials with Safety Data Sheets (SDS)
 - 6. Section 05 01 30 "Steel Gutter Repair"
 - 7. Section 05 12 00 "Structural Steel"
 - 8. Section 06 10 00 "Rough Carpentry"
 - 9. Section 07 01 50 "Preparation for Reroofing"
 - 10. Section 07 21 00 "Thermal Insulation"
 - 11. Section 07 22 16 "Roof Insulation"
 - 12. Section 07 41 13 "Metal Roof Panels"
 - 13. Section 07 54 00 "Thermoplastic Single Ply Roofing"
 - 14. Shop Drawings: Shop drawings or letter stating installation of materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
 - 15. Existing Damage Documentation: Existing damaged/dysfunctional components documentation (videotape, photos, etc.) including but not limited to asphalt spills, windows, walls, sidewalks, paving, ceilings, etc. Lack of submission prior to commencement of work indicates no existing damaged components and Contractor takes responsibility for damages caused by operations.
 - 16. 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. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's 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:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Shopwork manufacturing instructions.
 - f. Templates and patterns.
 - g. Schedules.
 - h. Notation of coordination requirements.
 - i. Notation of dimensions established by field measurement.
 - 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 Engineer's 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 manufacturer's letterhead certifying that product complies with requirements.
- G. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- H. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- I. Material Certificates: Prepare written statements on manufacturer's 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 manufacturer's 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 ENGINEER'S 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

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for quality assurance and quality control.

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. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer.
- C. Authority Having Jurisdiction: AHJ

1.4 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.

1.5 QUALITY ASSURANCE

- A. Perform quality assurance in accordance with governing Codes, referenced standards, established standards, or industry standards.
- B. Solely responsible for supervising and directing the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise necessary to perform the Work in accordance with the Contract. Solely responsible for the means, methods, techniques, sequences and procedures of construction and for coordinating portions of the Work under the Contract, except where otherwise specified in the Contract Documents. Solely responsible to the Owner that the finished Work complies with the Contract Documents.

- C. It is the intent under this contract that workmanship be of the best quality consistent with the materials and construction methods specified. The presence or absence of the Owner's or Engineer's representative in no way relieves the Contractor of his responsibility to furnish materials and construction in compliance with the drawings and specifications. The Owner and Engineer have the authority to judge the quality and require replacement of unacceptable work or personnel.
- D. Materials or methods described by words which, when applied, have a well-known technical or trade meaning are held to refer to such recognized standard. Standard specifications or manufacturer's literature, when referenced, are of the latest revision or printing unless otherwise stated, and are intended to establish the minimum requirements acceptable.
- E. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or accepted, deliver materials to the site in original packages or containers with seals unbroken and labels intact and do not open until reviewed and accepted by the Engineer. Notify the Engineer prior to such material's delivery.
- F. Correct deficiencies identified by Engineer and non-conforming work within 24 hours of receipt of notification, either verbally or written, and submit a plan of action for addressing the deficiencies and non-conforming work. Do not proceed with further tear-off or commencement of other work until deficiencies and non-conforming work are properly addressed.
- G. Control of Installation
 - 1. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
 - 2. Comply with manufacturers' instructions, including each step in the sequence
 - 3. Request clarification from Engineer before proceeding in the event manufacturers' instructions conflict with Contract Documents.
 - 4. Comply with specified standards as the minimum quality for the Work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
 - 5. Only allow Work performed by person qualified to produce workmanship of specified quality.
 - 6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
- H. Tolerances:
 - 1. Monitor tolerance control of installed products to produce acceptable work. Do not permit tolerances to accumulate.
 - 2. Comply with manufacturers' tolerances. Request clarification from Engineer in the event manufacturers' tolerances conflict with Contract Documents.
 - 3. Adjust products to appropriate dimensions; position before securing products in place.
- I. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
 - 1. Maintain applicable federal, state and municipal licenses.

2. Be certified in writing for a minimum of two years by the roofing materials manufacturer to install the primary roofing products.
 3. Have a minimum of five (5) years' experience in installing the same or similar materials specified under the same firm name as that submitting the bid. If requested, submit a copy of firm's Articles of Incorporation to verify years in business. Crew workers on site are experienced and have a working knowledge of the system being installed.
 4. Principals of the firm to have a minimum of ten (10) years' experience in the estimating, supervision, management and administration of a contracting firm engaged in work similar to work as specified.
 5. Licensed by state work is occurring in for the type and dollar amount of work contemplated by these Contract Documents.
 6. Never filed bankruptcy or filed for protection from creditors.
 7. During the construction and completion of work covered by these Specifications, if the conduct of workers of the various crafts is determined unsuitable or a nuisance to the Owner or Engineer, or if the workman is considered incompetent or detrimental to the work, order such party removed from the grounds with the person not returning during the course of work on the project.
 8. No later than ten days prior to the pre-construction conference, provide the Owner, in writing, the names of the proposed project manager, superintendent, and foreman for approval. If he so determines, the Owner, without giving cause, may request an additional name, or names, be submitted for approval. The Owner will notify the Contractor of his acceptance at least 48 hours prior to the pre-construction conference.
- J. Specialists: Certain sections of the Specifications require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists satisfy qualification requirements indicated and be engaged for the activities indicated.
- K. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- L. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.6 QUALITY CONTROL

- A. The authorized representatives and agents of Owner permitted to inspect work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.
- B. Owner Responsibilities:
1. Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - a. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 - b. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

C. Contractor's Responsibilities:

1. Repair and protection of work and materials.
2. Replace work or materials not conforming with requirements of the Specifications or damaged during the progress of the work before completion and acceptance of the project.
3. Coordinate documents with manufacturer and perform such testing, reporting, and communication incidental to provisions of the warranty procedures.
4. Inclement Weather
 - a. In the event of temporary suspension of work during inclement weather, or whenever the Engineer recommends, protect carefully its work and materials against damage or injury from weather. If work or materials have been damaged by reason of failure to protect the work, replace such materials.
 - b. During inclement weather and temporary suspension of work, inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Make inspections daily during extended periods of inclement weather. Upon arrival at the facility, inform the Owner of his presence and purpose.
 - c. If inspection of the facility does not occur by 9:00 AM on days of inclement weather and there is one or more leaks attributable to the Work, at 9:15 AM the Owner can exercise his right to contact an outside contractor to perform temporary repairs as necessary to prevent damage to the building, its contents and to minimize disruption. Reimburse the outside contractor an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, reimburse the amount contractor the fixed amount of \$500.00, each occasion, for mobilization and/or travel expenses.
 - d. In the event inclement weather occurs after normal business hours, Saturday, Sunday or holidays, make arrangements with the Owner to provide access to the building to inspect for leaks. Compensate Owner for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

D. Manufacturer's Field Services: During construction and until substantial completion, perform quality assurance site visits monthly by manufacturer's technical representative to ensure materials are being properly installed and as required to obtain the specified warranty.

1. The first site visit performed within the first three (3) days of operations.
2. Coordinate site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.
3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel are not acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.
4. Manufacturer's final inspections performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.
5. Violation of these requirements results in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Protect construction exposed by or for quality control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality control services.

END OF SECTION

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 QUALITY ASSURANCE

- A. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- B. 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. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- C. Water: Potable.
- D. 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.
- E. 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.
1. 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.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITIES

- A. Refer to General Conditions and Supplementary General Conditions.

3.2 CONSTRUCTION FACILITIES

- A. Temporary construction facilities include the following:
 - 1. Field Office: prefabricated, mobile units or job-built construction with lockable entrances and serviceable finishes including lights and utilities.
 - 2. 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.
 - 3. 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.
 - b. Comply with Section 01 74 00 "Cleaning and Waste Management" for progress cleaning requirements.

3.3 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.

3.4 TEMPORARY BARRIERS AND ENCLOSURES

- 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. Barricades, Warning Signs, and Lights: 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 fencing to enclose the materials storage and staging area.

3.5 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. 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.

3.6 TEMPORARY CONTROLS

- A. Provide security controls to protect work and materials at the project site.

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 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and Procedural requirements for progress cleaning and construction waste management.

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 STANDARD

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.4 DEFINITIONS

- A. Waste: Material that has reached the end of its intended use. Waste includes salvageable, returnable, recyclable and reusable material.
- B. Construction waste: Solid wastes including, but not limited to, building materials, packaging materials, debris and trash resulting from construction operations.
- C. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.
- D. Hazardous waste: Material or byproduct of construction that is regulated by the Environmental Protection Agency and cannot be disposed in a landfill or other waste end-source without adherence to applicable laws.
- E. Trash: Product or material unable to be returned, reused, recycled or salvaged.
- F. Landfill: Public or private business involved in the practice of trash disposal.

1.5 CLOSEOUT SUBMITTALS

- A. Landfill charge tickets

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or cause damage to finished surfaces.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials in a legal manner.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site:
 - 1. Maintain Project site free of waste materials and debris.
 - 2. Remove debris from the site when directed to do so by the Owner.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust impairs proper execution of the Work, broom-clean or vacuum the work area, as appropriate.
 - 3. If necessary, have a heavy-duty vacuum on site to remove small, loose debris from work area.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and do not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Acceptance.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. remove paint, mortar, oils, putty, and similar materials. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

- H. Waste Disposal: Burying or burning waste materials on-site is not permitted. Washing waste materials down sewers or into waterways is not permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Final Acceptance.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to ensure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.2 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that prevents spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.
- D. Separate, store and dispose of hazardous wastes in accordance with local and EPA regulations and additional criteria listed below:
 - 1. Do not incinerate building products manufactured with PVC or containing chlorinated compounds.
 - 2. Disposal of fluorescent tubes to open containers is not permitted.
 - 3. Do not co-mingle unused fertilizers with construction waste.

3.3 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Final Acceptance.
 - 2. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including, waste material, litter, and other foreign substances.
 - 3. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

4. Remove tools, construction equipment, machinery, and surplus material from Project site.
 5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 6. Remove debris and surface dust from roofs and walls.
 7. Clean transparent materials and glass in windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 8. Remove labels that are not permanent.
 9. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 10. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess foreign substances.
 11. Replace parts subject to unusual operating conditions.
 12. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - a. Inspection Procedures.
 - b. Project Record Documents.
 - c. Warranties.

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. Warranties:** Submit copy of warranties to meet the requirements of their respective specification section.

1.4 PROJECT RECORD DOCUMENTS

- A. General:** Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.
1. Submit required record documents and warranties within 30 days of the punch list inspection. If the Contractor fails to properly submit required items within this period, the Owner has the right to impose liquidated damages in the amount of \$500.00 for each consecutive day until the items are properly submitted.
- B. Record Drawings:** Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
1. Mark Record Prints to show where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Note related Change Orders and Record Drawings, where applicable.
- D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
1. Completed and signed Engineer's Punch List
 2. Copy of Manufacturer's Final Inspection Report
 3. Landfill Charge Tickets

1.5 WARRANTIES

- A. Warranties to commence on the date of Final Acceptance of the project.
- B. Roof Panel System finish warranty as outlined in Section 07 41 13 "Metal Roof Panels".
- C. Section 00 65 36 "Contractor's Warranty"
1. 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 7 days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

END OF SECTION

STEEL GUTTER REPAIR

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Existing Gutter Repair: Inspect, evaluate and remediate the existing steel roof gutter as follows:
 - a. Prepare and coat surface rust in existing gutter.

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"
2. Section 07 01 50 "Preparation for Reroofing"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 41 13 "Metal Roof Panels"
5. Section 07 54 00 "Thermoplastic Single Ply Roofing"

1.3 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".**
- B. Product Data:** Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions:** Latest edition of the Manufacturer's current material specifications and installation instructions.

1.4 QUALITY ASSURANCE

- A. Provide meticulous attention to the detail of installation and workmanship to ensure the assemblage of products in the highest grade of excellence by skilled craftsmen of the trade.**

PART 2 - PRODUCTS

2.1 MATERIALS

A. Gutter Repair:

1. Gutter Repair Coating: High solids, low VOC, self-priming epoxy coating for use on steel structures.
 - a. PPG Amerlock 400

- b. Devoe Bar-Rust 231
- c. Kryon Industrial High Build Epoxy Mastic 100
- d. Benjamin Moore & Co. Surface Tolerant Epoxy Mastic Coating V160

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove and vacuum debris from surface to allow for inspection of gutter.
- B. Take necessary precautions to prevent debris from entering building space, and coordinate operations with Engineer and Owner.
- C. Provide temporary protection of building interior and contents to prevent damage.

3.2 GUTTER REMEDIATION

- A. General:
 - 1. Remove loose dirt, rust, moisture, grease or other contaminants from the surface with a power wire brush.
 - 2. Vacuum the gutter surface clean.
- B. Application:
 - 1. Properly mix gutter repair coating according to manufacturer's recommendations.
 - 2. Do not mix more material than can be used in the materials expected pot life.
 - 3. Apply material at temperatures from 50° F to 90° F for optimum application.
 - 4. Brush or roller apply gutter repair coating as recommended by manufacturer.
 - 5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.

END OF SECTION

STRUCTURAL STEEL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide steel channel supports below the existing interior gutter.
2. Provide new roof Z-purlin and Z wall girts where indicated in Contract Drawings.

1.2 REFERENCES

A. American Institute of Steel Construction (AISC).

1. AISC 207 (2016; R 2017) Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components
2. AISC 303 (2016) Code of Standard Practice for Steel Buildings and Bridges
3. AISC 325 (2017) Steel Construction Manual
4. AISC 326 (2009) Detailing for Steel Construction
5. AISC 341 (2016) Seismic Provisions for Structural Steel Buildings
6. AISC 360 (2016) Specifications for Structural Steel Buildings
7. AISC 420 (2010) Certification Standard for Shop Application of Complex Protective Coating Systems
8. AISC Design Guide 10 (1997) Erection Bracing of Low-Rise Structural Steel Buildings

B. American Welding Society (AWS):

1. AWS A2.4 (2012) Standard Symbols for Welding, Brazing and Nondestructive Examination
2. AWS D1.1/D1.1M (2020; Errata 1 2021) Structural Welding Code – Steel
3. AWS D1.8/D1.8M (2016) Structural Welding Code – Seismic Supplement
4. AWS QC1 Specification for AWS Certification of Welding Inspectors

C. ASTM International

1. A6/A6M Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling
2. A36/A36M Standard Specification for Carbon Structural Steel
3. A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
4. A143/A143M (2007; R2020) Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement
5. A563 (2021; E 2022a) Standard Specification for Carbon and Alloy Steel Nuts
6. A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Coated Iron-Alloy (Galvannealed) by the Hot Dipped Process
7. A780/A780M Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

8. A992/A992M Standard Specification for Structural Steel Shapes
9. B695 Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
10. F844 Standard Specification for Washers, Steel, Plain (Flat), Unhardened for General Use
11. F1136/F1136M Standard Specification for Zinc/Aluminum Corrosion Protective Coatings for Fasteners
12. F1554 Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
13. F2329/F2329M Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts and Special Threaded Fasteners
14. F2833 (2011; R 2017) Standard Specification for Corrosion Protective Fastener Coatings with Zinc Rich Base Coat and Aluminum Organic/Inorganic Type

D. Society For Protective Coatings (SSPC)

1. SSPC PA 1 (2016) Shop, Field, and Maintenance Coating of Metals
2. SSPC Paint 20 (2019) Zinc-Rich Primers (Type I, Inorganic, and Type II, Organic)
3. SSPC Paint 29 (2002; E 2004) Zinc Dust Sacrificial Primer, Performance-Based
4. SSPC SP 3 (2018) Power Tool Cleaning
5. SSPC SP 6/NACE No. 3 Commercial Blast Cleaning

1.3 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Fabrication Drawings Including Details of Connections.
- E. Certifications:
 1. AISC Structural Steel Fabricator Quality Certification
 2. AISC Structural Steel Erector Quality Certification
 3. Welding Procedures and Qualifications
 4. Certified Welding Inspector

1.4 QUALITY ASSURANCE

- A. Preconstruction Submittals
 1. Erection and Erection Bracing Drawings
 - a. Submit for record purposes. Indicate the sequence of erection, temporary shoring and bracing. The erection drawings must conform to AISC 303. Erection drawings must be reviewed, stamped and sealed by a registered professional engineer.
- B. Welding Procedures and Qualifications

1. Prior to welding, submit certification for each welder stating the type of welding and positions qualified for, the code and procedure qualified under, date qualified, and the firm and individual certifying the qualification tests.
2. Conform to all requirements specified in AWS D1.1/D1.1M and AWS D1.8/D1.8M.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Provide the structural steel system, including shop primer, complete and ready for use.

2.2 STEEL

- A. Cold Formed Steel Roof Z Purlins and Wall Girts: 8x3.5Z steel purlins, ASTM A653, 50 KSI Yield Steel conforming to the "North American Specification for Cold-Formed Steel Structural Members". Shop prime with zinc rich primer.
- B. Gutter Supports
 1. MC3x7.1 Steel Channels, ASTM A36/A36M, shop prime with zinc rich primer.

2.3 STRUCTURAL STEEL ACCESSORIES

- A. Welding Electrodes and Rods
 1. AWS D1.1/1.1M. Submit product data for welding electrodes and rods.

2.4 FABRICATION

- A. Shop Primer
 1. SSPC Paint 20 or SSPC Paint 29, (zinc rich primer). Shop prime structural steel, except as modified herein, in accordance with SSPC PA 1. Do not prime steel surfaces embedded in concrete, galvanized surfaces, or surfaces within 0.5 inch of the toe of the welds prior to welding (except surfaces on which metal decking and shear studs are to be welded). If flash rusting occurs, re-clean the surface prior to application of primer. Apply primer to a minimum dry film thickness of 2.0 mil. Submit shop primer product data.
 2. Prior to assembly, prime surfaces which will be concealed or inaccessible after assembly. Do not apply primer in foggy or rainy weather; when the ambient temperature is below 45 degrees F or over 95 degrees F; or when the primer may be exposed to temperatures below 40 degrees F within 48 hours after application, unless approved otherwise by the Contracting Officer. Repair damaged primed surfaces with an additional coat of primer.
- B. Cleaning
 1. SSPC SP 6/NACE No.3, except steel exposed in spaces above ceilings, attic spaces, furred spaces, and chases that will be hidden to view in finished construction may be cleaned to SSPC SP 3 when recommended by the shop primer manufacturer. Maintain steel surfaces free from rust, dirt, oil, grease, and other contaminants through final assembly.

PART 3 - EXECUTION

3.1 WELDING

- A. Welding must be in accordance with AWS D1.1/D1.1M and AWS D1.8/D1.8M. Provide AWS D1.1/D1.1M qualified welders, welding operators, and tackers. Develop and submit the Welding Procedure Specifications (WPS) for all welding, including welding done using prequalified procedures. Submit for approval all WPS, whether prequalified or qualified by testing.

3.2 SHOP PRIMER REPAIR

- A. Repair shop primer in accordance with the paint manufacturer's recommendation for surfaces damaged by handling, transporting, cutting, welding, or bolting.
- B. Field prime steel exposed to the weather, or located in building areas without HVAC for control of relative humidity. After erection, the field bolt heads and nuts, field welds, and any abrasions in the shop coat must be cleaned and primed with paint of the same quality as that used for the shop coat.

3.3 FIELD QUALITY CONTROL

- A. Perform field tests, and provide labor, equipment, and incidentals required for testing. Notify the Engineer in writing of defective welds, bolts, nuts, and washers within 7 working days of the date of the inspection.
- B. AWS D1.1/D1.1M. Furnish the services of AWS-certified welding inspectors for fabrication and erection inspection and testing and verification inspections. A Certified Welding Inspector must perform visual inspection on 100 percent of all welds. Document this inspection in the Visual Weld Inspection Log. Submit certificates indicating that certified welding inspectors meet the requirements of AWS QC1.

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 gutter liner including:
 - a. Provide plywood sheathing at interior gutter ends.

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 05 01 30 "Steel Gutter Repair"
2. Section 07 01 50 "Preparation for Reroofing"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 41 13 "Metal Roof Panels"
5. Section 07 54 00 "Thermoplastic Single Ply Roofing"

1.3 REFERENCES

A. Refer to the following references, current edition for specification compliance:

1. American Society for Testing and Materials (ASTM)
2. American Plywood Association (APA)
3. American National Standard
 - a. ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems

1.4 DEFINITIONS

A. Rough Carpentry includes carpentry work not specified as part of other Sections and generally not exposed.

1.5 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.6 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. Plywood:
 - 1. APA Rated Sheathing, 32/16, Exposure 1, Grade C, 1/2" thickness.

2.2 FASTENERS

- A. General:
 - 1. Stainless steel or as accepted by Engineer.
- B. 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.

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. 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.
2. Coat steel decking with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel and treated wood products.
3. Do not allow treated lumber to make direct contact with steel decking.

3.3 INSTALLATION

- A. 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.
- B. 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.
- C. 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.
- D. Attachment:
 - 1. Securely attach rough carpentry work to substrate with fasteners anchored to resist the required upward and outward design wind loads.
 - 2. Install fasteners without splitting wood. Pre-drill where necessary. Replace split or damaged wood to provide acceptable conditions.
 - 3. 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.
 - 4. Plywood Sheathing Securement: Secure at 4 inches on center staggered.

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

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 existing steel purlins.
 - b. Remove and dispose of the existing gutter linings and insulation down to the existing steel gutter liner.
 - c. Remove and dispose of the existing conductor heads from the gutter to the existing vertical pipe.
 - d. Remove and dispose of the existing ridge vents.
 - e. Under Roof Deck Survey

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 05 01 30 "Steel Gutter Repair"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 41 13 "Metal Roof Panels"
5. 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 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".**
- B. Product Data:** Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions:** Latest edition of the Manufacturer's current material specifications and installation instructions.

1.5 EXISTING ROOF ASSEMBLIES

- A. Roof Sections A and B are coated R-Panel profile metal roof panels over steel purlins.
- B. Roof system composition is based on random sampling. Contractor is responsible for verification of roof system composition.

1.6 QUALITY ASSURANCE

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

1.7 SCHEDULING

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

1.8 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

- A. Prior to work being performed, complete a survey of the under deck components.
- B. Locate and mark conduit, utilities, etc. that interfere with the replacement roof system. Provide all disconnects, reconnects and utility extensions necessary to replace the roof system. Resecure items impacted during the roof replacement.
- C. Notify Owner and Engineer prior to survey being performed.

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, 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 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

METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide exposed fastener metal roof panel system.
2. Provide exterior mounted gutters and downspouts at Roof Section B.
3. Provide polymer clad metal at the interior gutter at Roof Section A.

1.2 RELATED SECTIONS

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 05 01 30 "Steel Gutter Repair"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 01 50 "Preparation for Reroofing"
4. Section 07 22 16 "Roof Insulation"
5. Section 07 54 00 "Thermoplastic Single Ply Roofing"

1.3 REFERENCES

A. Refer to the following references for specification compliance:

1. ASCE 7 Minimum Design Loads for Buildings and Other Structures
2. ASTM International
 - a. ASTM A 653 - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - b. ASTM A 755 - Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
 - c. ASTM A 792/A 792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - d. ASTM E 1592: "Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference".
 - e. ASTM E 1680: "Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.
 - f. ASTM E 1646: "Standard Test Method for Water Penetration Through Exterior Metal Roof Panel Systems.
 - g. ASTM A 792-AZ50 (Painted) & ASTM A792-83-AZ55 (unpainted Galvalume): "Specifications for Steel Sheet, Aluminum-Zinc Alloy Coated by the Hot Dip Process, General Requirements (Galvalume)".
 - h. ASTM E 1514-03: "Standard Specification for Structural Standing Seam Steel Roof Panel Systems".
 - i. ASTM E 408: Standard Test Method for Total Normal Remittance of Surfaces Using Inspection Meter Techniques.

- j. ASTM E 903 Standard Test Method for Solar Absorptions, Using Integrating Spheres.
- 3. Underwriters Laboratory:
 - a. UL580: "Tests for Uplift Resistance of Roof Assemblies", Underwriters Laboratories, Inc.
 - b. UL2218: Class 4 Impact Resistance Rating
- 4. SMACNA: "Architectural Sheet Metal Manual", Sheet Metal and Air Conditioning Contractors National Association, Inc.
- 5. AISC: "Steel Construction Manual", American Institute of Steel Construction.
- 6. National Roofing Contractors Association, NRCA "Roofing and Waterproofing Manual," current edition.
- 7. AAMA: American Architectural Manufacturer's Association

1.4 DEFINITIONS

- A. Metal Roofing Panel System: Consists of metal roofing panels, fascia, clips, fasteners, trim, flashings and associated accessories which when assembled result in a watertight, wind resistant assembly meeting requirements specified herein, including the requirements to meet the specified Manufacturer's Guarantee.

1.5 PERFORMANCE REQUIREMENTS

- A. General: Provide metal roof panel assemblies that comply with performance requirements specified as determined by testing manufacturers' standard assemblies similar to those indicated for this Project, by a qualified testing and inspecting agency.
- B. Submit Manufacturer's sealed engineering calculations, test reports and/or other applicable data certifying the proposed standing seam roofing system meets or exceeds the design criteria listed below.
 - 1. Water Penetration: Meet or exceed ASTM E 1646 when tested with a 6.24 psf pressure differential with no uncontrollable water leakage when five gallons per hour of water is sprayed per square foot of roof area.
 - 2. Wind Design: Provide an approved, tested roof assembly to resist the design wind uplift pressures specified in the Contract Drawings.
 - 3. Thermal Movements: Provide metal roof panel assemblies that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - a. Temperature Change (Range): 120 deg F, ambient; 180 deg F (100 deg C), material surfaces.
 - 4. Structural Panel Deflection: Space framing members and clips supporting the standing seam roofing system to ensure a maximum deflection under applied live load of 20 psf not to exceed L/240 of the span.
 - 5. Fire Testing: Meet ASTM E 108 and Class 1A-UL 90

1.6 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Product Test Reports: Submit testing reports for ASTM E 1646 and ASTM E 1592-01 to meet the test results shown in this specification section. Submit the appropriate documentation to prove State Building Code design compliance. Test reports for ASTM E 108, ASTM D 5894, ASTM D 968, ASTM G23 and G153.
- E. Shop Drawings:
 - 1. Submit shop drawings and erection details, approved by the Standing Seam Metal Roofing Manufacturer, and sealed by a structural engineer licensed in the State of the project. Do not proceed with work until Manufacturer Approved drawings have been submitted for review and acceptance.
 - 2. Show methods of erection, framing details, roof and wall panel layout, sections and details, anticipated loads, clip spacing for each wind area or zone of the roofs, flashings, sealants, interfaces with materials not supplied and proposed identification of component parts and their finishes.
- F. Engineering Calculations: Provide sealed manufacturer's engineering calculations demonstrating compliance with the performance requirements of this specification and applicable Codes.
 - 1. Provide manufacturer's calculations demonstrating holding strength of fasteners, to structural framing, in accordance with submitted test data, provided by fastener manufacturer, based on length of embedment and properties of materials.
- G. Standard Colors: Submit the manufacturers' standard colors for selection by the Owner.
- H. Manufacturer's Qualifications: Requirements for certification noted in Manufacturer's Qualifications under Quality Assurance and AISC standards.

1.7 QUALITY ASSURANCE

- A. Source Limitations: Obtain metals panel through once source from a single manufacturer.
- B. Manufacturer's Qualifications: Meet and provide written certification stating:
 - 1. Regularly engaged in the fabrication of metal standing seam roof systems for at least ten (10) years, regardless of name change.
 - 2. Maintains a certified installer program for its products and maintains up-to-date authorized roofing contractor list.
 - 3. Written warranty covering durability, color and weathertightness of its roof system and include the insulation curbs and flashings from the roofing manufacturer.
 - 4. Reviewed the project's environmental exposure for proximity to coastal environments, has provided the interpretation that the proximity to the salt and/or brackish water environments is acceptable, and will not make exclusions to the specified Guarantee based solely on the proximity to these exposures.

5. Provide the technical data, shop drawings and calculations specified herein.
6. Provide in-house inspection services.
7. Installer training program including the following:
 - a. Experienced instructors with experience in the application of the Metal Roofing System.
 - b. A formal syllabus for the classroom and hands-on training.
 - c. Classroom instruction with review and thorough understanding of the specific product's technical manual.
 - d. Hands-on mock-up instruction with a review and thorough understanding of the specific product's details.
 - e. Required to take written and/or oral examinations to pass certification.
 - f. Requirement for re-certification of training at a minimum of every five (5) years.
8. Certified the Contractor's personnel and has approved the Installer for the specified Metal Roofing System for the specified Guarantee.
9. Manufacturer's Inspection: The manufacturer's on-site technical representative employed by the manufacturer as a Technical Representative. Provide a minimum of one (1) on-site visit per month; attend the project start-up meeting, on-site for first two (2) start-up days, including observation of seaming of the first three (3) metal roof panels, and at pre-final or final inspection of the metal roofing system installation. Notify Engineer a minimum of forty-eight (48) hours prior to manufacturer's inspections. Copy Engineer on inspection report noting deficiencies within seven (7) days after each site visit.
10. Upon completion of the work and prior to final payment, conduct a final inspection in presence of the Contractor and Engineer. Record deficiencies in the work and document completed repairs. Final payment will not be certified until the manufacturer has given his certification/approval of the work and the required Guarantee has been reviewed by the Engineer.

C. Contractor's Qualifications:

1. Approved installer, certified by the Manufacturer before the beginning of the installation of the standing seam metal roof system.
2. On-site Foreman (provide name and date of training) is the person having received certification and training by the Manufacturer and has received specific training in the proper installation of the selected standing seam metal roof system.
3. The Manufacturer trained and certified Foreman present to supervise work during installation of standing seam roofing and associated materials.
4. No viable claims pending regarding negligent acts or defective workmanship on previously performed or current roofing projects involving the specified standing seam metal roofing system.
5. Provide a list of five projects listing the architect/engineers and/or building owners including individuals' names and telephone numbers for five standing seam metal roofing projects that have been in service for a minimum of two years.
6. Ensure the manufacturer provides the specified on-site technical visits and agrees to compensate the manufacturer as necessary for additional on-site visits required or deemed necessary by the Engineer to resolve deficiencies in the Contractor's workmanship.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Coordinate delivery with Engineer/Owner and occupants on site.
2. Deliver material in the manufacturer's original sealed and labeled shrouds and in quantities to allow continuity application.
3. Ensure metal roof system is delivered to the job site properly packaged to provide protection against transportation damage.
4. Inspect materials delivered to the project site. Reject materials damaged during shipping and do not install on the project.

B. Handling:

1. Exercise extreme care in unloading, storing and erecting metal roof system to prevent bending, warping, twisting and surface damage.
2. Handle materials to prevent scratches, dents, bending, twisting, warping and other damages.
3. Remove significantly scratched materials, and materials scratched through to the base steel from the project and replaced.
4. Remove dented, bent or damaged materials resulting in improper fit and detract from intended aesthetics from the project and replaced.

C. Storage:

1. Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level. Place non-sweating tarpaulins to prevent moisture contamination. Factory shrouds and visqueen are not acceptable.
2. Prevent rain from entering bundle by covering with tarpaulin, making provision for air circulation between draped edges of tarpaulin and the ground. Prolonged Storage of sheets in a bundle is not recommended.
3. Protect materials from staining, dirt, dust or water marks. Clean stained materials before installation or replace.
4. Comply with fire prevention requirements for the storage of materials. Locate combustible storage sufficiently away from buildings and non-building structures to eliminate fire exposures. Protect storage of combustible insulation materials from open flame and fire exposures. Control project related ignition sources.

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit assembly of metal roof panels according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements: Verify locations of roof framing and roof opening dimensions by field measurements before metal roof panel fabrication and indicate measurements on Shop Drawings. Where field measurements cannot be made without delaying the Work, either establish framing and opening dimensions and proceed with fabricating metal roof panels without field measurements or allow for field-trimming of panels. Coordinate roof construction to ensure building dimensions, locations of structural members, and openings correspond to established dimensions.

1.10 WARRANTY

- A. Provide Manufacturer's Warranty to the Owner upon completion of the project.

1. Finish Warranty: Provide manufacturer's written panel finish warranty against deterioration of factory applied finishes.
 - a. Warranty Period: Minimum period of twenty (20) years from date of Substantial Completion.
 - b. Prorated Conditions: None.
 - c. Limitations of liability: Not less than value of material and labor to replace.
 - d. Do not include "hold harmless" clause, nor limit liability of Contractor.
 - e. Warranty is subject to laws of North Carolina.
 - f. Venue to settle disputes is county of the project location.
 - g. Coating systems are not an approved warranty repair.
 - h. Warranty shall include coverage for the metal roofing coating system against cracking, flaking or peeling (loss of adhesion) to an extent that is apparent on ordinary outdoor visual observation and warrant against chalking in excess of ASTM D-4214 method A number eight (8) rating and against color change in excess of five (5.0) Hunter E units as determined by ASTM method D-2244.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturers:

1. Fabral - Hefti-Rib
2. MBCI - 7.2 Panel
3. McElroy - Mega Rib
4. PAC-CLAD - 7.2 Panel
5. Engineer's Accepted Equivalent

2.2 MATERIALS

A. Base Material:

1. Galvalume Panels: AZ50 Galvalume coated steel, meeting ASTM A792-83-AZ50, minimum 22 ga., provide heavier gauge where required for specified wind uplift resistance.

B. Exposed Fastener Metal Roof Panel:

1. Profile: 7.2 Panel
2. Coverage Width: 36 inch
3. Rib Spacing: 7.2 inch
4. Rib Height: 1.5 inch
5. Nominal Coated Thickness: 22 gauge minimum (provide heavier gauge as required by manufacturer to meet deflection limits based upon purlin/framing spacing).

C. Metal Finish:

1. Manufacturer's smooth finish, pre-finished color coatings for coastal / severe environments (Fluorothane Coastal or equivalent) consisting of 70% Kynar 500 fluorocarbon (Polyvinylidene Fluoride PVDF) coating 0.7 - 0.8 mils over a high build primer 1.0 to 1.2 mils on the finish side, with high build primer 0.4 to 0.5 mils and a backer coat 0.3 to 0.4 mils on the reverse in accordance with , AAMA 621 .
2. Color of finish for panels and associated trim selected by Owner from Manufacturer's standard color chart.
3. Meet or exceed the following:
 - a. Abrasion Resistance: Pass 100 +/- 10 liters of falling sand per mil thickness per ASTM D968.
 - b. Pencil Hardness: HB to 2H per ASTM D3363.
 - c. Impact Resistance: 3X metal thickness in In-lbs. no loss of adhesion per ASTM D2794.
 - d. Water Immersion: 100 degrees F for 500 hours, no loss of adhesion per ASTM D870.
 - e. T Bends: 1T to 3T minimum, no loss of adhesion per ASTM D4145
 - f. Flame Test: Class A Coating per ASTM E84
 - g. Cross Hatch Adhesion: No loss of adhesion per ASTM D3359
 - h. Chalking: Rating No Less than 8 at 20 Years per ASTM D4214
 - i. Film Integrity: No loss of Adhesion at 20 Years per ASTM G7
 - j. Salt Spray Resistance: Samples diagonally scored and subjected to 5% at 95 degrees F, neutral salt spray per ASTM B117, then taped with Scotch #610 cellophane tape: 1000 hours coated steel, no blistering and no loss of adhesion greater than 1/16 from score line.
 - k. Humidity Resistance: No blistering, cracking, peeling, loss of gloss or softening of the finish after 2000 hours coated steel, of exposure at 100% humidity at 95 degrees F, per Federal Test Method Standard 141, Method 6201 or ASTM D2247.
 - l. Chalking Resistance: No chalking greater than #8 rating, per ASTM D659 test procedure after a 3000-hour weatherometer test.
 - m. Color Change: Do not exceed 5 NBS units for finish coat color change per ASTM D-822, ASTM G-23, and ASTM D2244 (South Florida 20-years) test procedure after 3000-hour weatherometer test.

D. Fasteners:

1. Fasteners associated with the roofing installation supplied by, and approved by, the metal roofing manufacturer.
 - a. Fastener length and threads and drill point as required for the metal and substrates being joined. Refer to fastener manufacturer and/or roofing manufacturer published literature. Indicate type of fastener on shop drawings.
 - b. Corrosion resistant, self-tapping/self-drilling fasteners, bolts, nuts, self-locking rivets and other suitable designed to withstand specified design loads.
 - c. Provide factory applied coating on the exposed fastener head and washer to match metal roof system color.
 - d. Provide neoprene-backed washers for exposed fasteners.
 - e. Position and space exposed fasteners in a true vertical and horizontal alignment. Use proper torque settings to obtain controlled uniform compression for a positive seal without rupturing the neoprene washer.

2. Exposed Fasteners:

- a. Metal to wood: #12 stainless steel long life fastener, 5/16 inch HWH with bonded EPDM washer, factory painted head and washer to match metal color and length to penetrate substrate a minimum of 1-1/2 inches.
- b. Metal to sheet metal: 1/4-14 x 7/8 inch long life fastener, corrosion resistant, self-drilling point, self-tapping, stainless steel 5/16" HWH with EPDM sealing washer; factory painted head and washer to match adjacent metal color.
- c. Metal to light gauge steel: #12-14 x 1-1/4 inch long life fastener, corrosion resistant, self-drilling point, self-tapping, stainless steel 5/16" HWH with EPDM sealing washer; factory painted head and washer to match adjacent metal color.

3. Concealed Fasteners:

- a. Metal to wood: #10-13 GP, 302 stainless steel, low profile pancake head with length to penetrate substrate a minimum of 1 inch.
- b. Metal to light gauge steel: #12-14 x 1-1/4 inch DP3 corrosion resistant low-profile pancake head of length as required for three threads to penetrate steel substrate.

E. Underlayment Materials:

- 1. Felt Underlayment: ASTM D 226 or ASTM D 4869, Type I, asphalt-saturated organic felt, non-perforated.

F. Accessories: Manufactured, supplied and/or otherwise approved by the standing seam roofing Manufacturer.

G. Ridge Vent: Provide perforated metal vent to fabricate perforated vent drip with minimum 20 sq. inches of NFVA per lineal foot along the ridge as detailed.

H. Metal Plates: Bent plates, rake plates, bent angles - fabricate from 16 GA primed steel

I. Sheet Metal Flashings, Closures and Trim:

- 1. Provide sheet metal flashings, closures and trim fabricated from the specified pre-finished metal of the same gauge, finish and color as the roof panels.
 - a. Rake Closure Trim
 - b. Rake Extension
 - c. Eave Trim
 - d. Perforated Vent Drip
 - e. Ridge Cap
 - f. Closure at Interior Gutter
 - g. Drip
 - h. Gutter
 - i. Downspouts
 - j. Gutter Liner (Interior Gutter)

J. Polymer Clad Metal:

1. Heat-weldable, 24 gauge, AISI G90 galvanized steel sheet with a 20-mil][35-mil] unsupported thermoplastic membrane coating to match the flashing membrane composition laminated on one side. Polymer-Clad metal manufactured by, and included in the warranty of, the single-ply membrane Manufacturer utilized in Section 07 54 00 "Thermoplastic Single Ply Roofing" Color selected by Owner.

a. Polymer Clad Metal Flashing Extension

- K. 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.

L. Conductor Head and Tapered Conductor Head Base:

1. Provide sheet metal flashings, closures and trim fabricated from the specified pre-finished 18 Gauge Galvanized Steel, shop prime and paint to match roof panels. Weld all joints. Conductor Head and Tapered Conductor Head Base:
 - a. 18 Gauge Galvanized steel, G90 coating, provide air dried kynar paint or powder coat to match sheet metal finish color. Provide certification delivered to site with materials indicating method of finish. Weld all seams watertight.

- M. Bird Mesh: 4x4 Galvanized Wire Mesh fabricated from 0.0063" diameter wire.

N. Conductor Head, Gutter and Downspout Attachment Components:

1. Galvanized steel, G90 coating, provide air dried kynar paint or powder coat to match sheet metal finish color. Provide certification delivered to site with materials indicating method of finish.
 - a. Gutter Hangers: 1/4 inch x 1-1/2 inch
 - b. Downspout Hangers: 1/8 inch x 1 inch
 - c. Gutter Spacers: 1/4 inch x 1-1/2 inch
 - d. Conductor Head Strap: 3/16 x 2 inch

O. Sealants:

1. Polyurethane Sealant: One-component elastomeric gun grade polyurethane sealant conforming to ASTM C 920, Type S, Grade NS, Class 25, and use NT, M, A, G, or O as required by substrate conditions. Color to match adjacent materials.
2. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant. Meet ASTM C 920, Type S, Grade NS, Class 100, Use M, G, A or O. Color to match adjacent materials. Utilize where exposed.
3. Sealant Tape: 3/16-inch x 7/8-inch tri-bead, non-skinning butyl sealant tape. Utilize 2-1/2-inch wide by 3/16-inch thick triple-bead, non-skinning butyl sealant tape where indicated in Contract Drawings or required by metal roof panel manufacturer.
4. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant. Utilized where concealed between sheet metal sections, laps, etc.

5. Universal Foam Closure: Polyurethane foam closure designed to expand and conform to various wall panel profiles.
6. Metal Roof Panel Closures: Foam Closure (Inside, Outside) - Roof Panel Manufacturer standard precut foam closure to match panel profile.
7. Universal Foam Closure: Polyurethane foam closure designed to expand and conform to various wall panel profiles.
8. Separator Gasket: pre-compressed, polyurethane foam infused with a hydrophobic-acrylic, Emseal Backerseal or Approved Equivalent

2.3 FABRICATION

- A. Roof panels and associated metal roofing components fabricated by, or provided by, a single-source manufacturer to fit together as a completed roofing assembly meeting the requirements specified herein.
- B. Shop and field fabricate trim components meeting the roofing Manufacturers requirements for watertight fit.
- C. Factory form roof panels by the specified Manufacturer, not job formed or formed on portable equipment in the Contractor's shop. In-line leveled prior to roll forming panel profile with fixed base equipment assuring highest level of quality control.
- D. Roll formed in continuous lengths. No panel end laps between ridge and eave.
- E. Fabricate trim, sheet metal flashing and accessories to fit secure and watertight at transitions and details. Replace items with improper fit.
- F. Fabricate roof trim and sheet metal flashing from same specified finish same as roof panel.
- G. Replace panels and components that result in completed installation being loose, bent or warped for proper fit.
- H. Surface-applied sealants are not acceptable to finish poorly fabricated and poorly fitting components. Where components do not fit tight with overlapping metal joints and seams, replace materials to fit properly for overlapping, tight and secure fit.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect substrates and Work to verify the conditions are acceptable and complete.
- B. Replace or repair unsatisfactory, wet or deteriorated roof substrates based on Quantity Allowances and Unit Prices.
- C. Inspect metal roof panels and other components before installation. Repair or replace materials with scratches through the finish. Remove damaged and dented materials, and materials scratched through to the steel base material from the project.
- D. Verify installation in accordance with approved shop drawings and manufacturer's instructions before beginning work including verifying secondary structural members and/or decking are satisfactory for metal roofing system.

- E. Coordinate with metal roof system manufacturer to ensure that reduced clip spacing at eave, rake, ridge and corner areas are accommodated by framing spacing and/or substrate.
- F. Inspect substrates and notify Engineer in writing of deficiencies observed effecting the installation and effecting the completed roofing system and associated components.
- G. Inspect conditions at the walls. Replace deteriorated rough carpentry and resecure rough carpentry.
- H. Inspect conditions at pipes, conduit, fans, stacks and curbs to determine conditions and work requirements necessary to disconnect services, remove equipment, reinstall equipment and install structural supports necessary to support the equipment and curbs. Provide electrical, plumbing, mechanical and other services necessary to relocate rooftop equipment and roof penetrations.
- I. Commencement of work signifies acceptance of substrates. Correct defects in roofing work resulting from accepted substrates to Owner's satisfaction at no additional expense.
- J. Reject and replace materials damaged during shipping, storage or handling.
- K. Inspect storage conditions daily to ensure materials remain protected from damage, condensation, dew, rain or other contamination.

3.2 PREPARATION

- A. Roof Substrate:
 - 1. Dry and broom and/or vacuum clean of loose gravel, stone, dirt, dust, debris and foreign matter prior to installation of the roofing system. Do not use blowers unless accepted by the Engineer/Owner.
 - 2. Remove free water and wet or damp debris from deck substrate surface before installing roofing system.
 - 3. Verify wall substrates are in satisfactory condition before commencement of the Work.
- B. Protection:
 - 1. Protect the building and materials from exposure to weather related damages.
 - 2. Protect building walls and other surfaces with canvas or suitable tarp wherever equipment or materials are taken up to or down from roof.
 - 3. Protect building interiors using suitable methods required to prevent damage from roofing activities.
 - 4. Dry-in the building daily to ensure the building remains watertight. Take necessary measures to protect the building from weather related exposures during the project.
 - 5. Seal deck openings to prevent dust and debris from entering the building.
 - 6. Protect building grounds, landscaping and exterior components and fixtures from damaged during construction activities. Repair damages to meet pre-construction conditions.
- C. Coordination:
 - 1. Coordinate work and associated work activities with the Engineer/Owner

2. Coordinate curb replacement and installation of curbs for fans and equipment with the Engineer/Owner in advance. Limit the scheduled outage of equipment to one day or less, and the schedule for outages in advance with the Engineer/Owner. Work on weekend or non-business hours as necessary to accommodate the Owner and occupancy.
3. Coordinate raising or relocating vent pipe/soil stack pipes with the Engineer/Owner.
4. Coordinate interior access and interior work with Engineer/Owner in advance. Do not proceed with interior work unless agreed upon by the Owner and occupants.

D. Roof Loading, Staging and Storage:

1. Evenly distribute loads of materials on roofs. Do not pre-load roofs with concentrated loads of materials that exceed the roof deck and structure's load bearing capacity.
2. Secure materials and equipment stored on the roof to prevent items from sliding or falling off of the roof.
3. Secure materials and equipment on the roof to prevent materials from being displaced by wind.

3.3 APPLICATION

A. General:

1. Allow for thermal movement, expansion and contraction, of sheet metal components. Install lengths of metal, fastening type and rate, metal joints, and connections to meet sheet metal industry recognized standards and published standards including those referenced herein.
2. Provide uniform sheet metal sections with corners, joints, and angles mitered, sealed and secured for tight fit.
3. Overlap, rivet and seal watertight counter flashing corners.
4. Hem sheet metal edges for strength and appearance.
5. Provide end closures fabricated to terminate each end of the detail for counterflashing, expansion joints and other applicable components. Conceal the adjacent substrates for watertight closures. Conform to the adjacent conditions and provide for a minimum 4-inch overlap.
6. Provide necessary cleats or stiffeners and other reinforcements as required to make sections rigid and substantial.
7. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning" and buckling. Adjust substrates, nailers, framing, etc. to ensure finished sheet metal is installed smooth.
8. Install sheet metal to prevent moisture from entering beyond the detail.
9. Provide sheet metal transition details with watertight redundancy including, but not limited to self-adhering underlayment membrane, concealed sealants, and metal joint back-up plates. Install, seal and lap secondary protection to ensure if the sheet metal detail fails to shed water, the secondary protection sheds limited moisture infiltration.
10. Do not allow dissimilar metals or other materials to make contact. Where dissimilar material is found in-place, prevent galvanic corrosion by a separation barrier approved by Manufacturer and accepted by Engineer.
11. Do not allow galvalume and galvanized steel and aluminum materials to be in contact with treated wood products. Provide a physical separation, including PVC underlayment membrane or self-adhering underlayment membrane to prevent contact.

B. Felt Underlayment:

1. Install felt underlayment at the following locations:
 - a. Between existing gutter and new gutter liner.

C. Night Seals/Daily Tie-ins:

1. At end of day's work, or when precipitation is imminent, build a water cut-off at open edges and penetrations. Construct tie-ins to withstand extended periods of service, anticipated storms, precipitation and high winds.
2. Take necessary precautions during construction to prevent weather related exposures to the building and materials, roof leaks and other weather-related damages resulting from the work included in the project.
3. Replace building insulation, ceilings, plywood, decking, fixtures, etc. wetted or damaged during Construction.
4. Repair damages resulting from water that enters under the metal roofing and components, and water that enters the building in the work areas during construction.

D. Field-Cutting Pre-Finished Metal:

1. Prohibit the use of abrasive/grinding blades, circular saws and reciprocating saws. Prohibit cutting operation that grinds, rips and tears the metal.
2. Approved cutting tools for Galvalume and pre-finished steel include aviation snips, sheet metal hand shears, electric metal shears and electric nibblers.

E. Exposed Fastener Roof Panels:

1. Install weathertight metal panel system in accordance with manufacturer's written instructions, approved shop drawings, and project drawings.
2. Install metal roof panels in orientation, sizes, and locations indicated, free of waves, warps, buckles, fastening stresses, and distortions.
3. Anchor panels and other components securely in place. Provide for thermal and structural movement.
4. Panel Sealants: Install manufacturer's recommended tape sealant at panel sidelaps and endlaps.
5. Panel Fastening:
 - a. Attach panels to supports using screws, fasteners, and sealants recommended by manufacturer and indicated on approved shop drawings.
 - b. Fasten metal panels to supports at each location indicated on approved shop drawings, with spacing and fasteners recommended by manufacturer.

F. Squareness:

1. Aesthetics of completed roofing is of utmost importance.
2. Provide panels, framing, components and trim aligned true, straight and square.
3. Ensure installation and sequence is square for proper fit of components.
4. Do not exceed tolerance for squareness of 1:500 (1.92 inch per 100 ft).
5. Maintain modularity and alignment of roof panels to prevent roof panel "stair-stepping" or "fanning".
6. Utilize the Manufacturer's "spacer tools", "module makers" and/or measuring tape to maintain consistent roof panel coverage.

7. Check for squareness after installing no more than every five (5) panels to ensure the panels are laying-up square and remain true.
8. Complete installation of roofing and associated components for watertight fit, to accommodate concealed sealants where specified, and to allow for specified thermal movement.
9. Correct abrupt and sharp transitions in the substrate to prevent crimping, bending or poor fitting sheet metal components that result in oil canning.
10. Correct roofing, flashing and sheet metal components that do not meet the specified tolerances.

G. Roof components, flashings, closures and trim:

1. Fabricate and supply sheet metal flashings, trim and closure materials by the standing seam roofing Manufacturer, unless otherwise specified.
2. Roof details and flashings pre-approved by the Manufacturer for inclusion in specified warranty.
3. Install in accordance with Manufacturer's shop drawings, details and published requirements.
4. Install details with redundancy, including secondary metal flashing, concealed sealant and metal roof panel underlayment beneath details.
5. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.
6. Hem (return) exposed edges for strength and appearance.
7. Fit sheet metal close and neat.
8. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.
9. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, oil canning, and buckling.
10. Sheet Metal Laps: Unless otherwise indicated:
 - a. Notch and lap ends of adjoining sheet metal sections not less than 4 inches; apply sealant tape or two beads of butyl sealant between sections.
 - b. Lap miters at corners a minimum of 1 inch and apply butyl sealant between laps. Rivet at 2 inches on center.

H. 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.

I. Rake Flashing:

1. Provide slotted rake angle along rake edge.
2. At beginning roof panel, but panel to rake angle and allow horizontal flange of seam to extend past angle. At ending panel, turn roof panel up rake angle and back 1" minimum to provide horizontal flange for securement.

3. Provide sealant tape along roof panel flange.
4. Fabricate rake flashing as shown in detail drawings in 8 foot or 10 foot lengths.
5. Secure rake flashing to roof panel through sealant tape at 6 inches on center.
6. Lap rake flashing seams in shingle fashion with minimum 6-inch overlap and provide three beads of butyl sealant between sheet metal laps.

J. Eave Closure:

1. Fabricate eave closure as shown in detail drawings in 10 foot lengths.
2. Provide sealant tape below closure and secure closure at 12 inches on center along line of tape.
3. Lap seams with minimum 4 inch overlap and provide two beads of butyl sealant between sheet metal laps.

K. Ridge:

1. Provide ridge cap secured at 6 inches on center. Do not install fasteners through panel seams.
2. Lap adjoining sections of ridge cap a minimum of 4 inches and provide two beads of butyl sealant between sheet metal laps.
3. Provide perforated vented drip and secure through sealant tape on foam closure at each major rib. Provide sealant tape on both sides of foam closure.

L. Gutters:

1. Fabricate to profile shown in Contract Drawings.
2. Formed in 10 foot lengths. Joints in gutters lapped a minimum of 1 inch, riveted 1 inch on center. Install butyl sealant between gutter sections and silicone sealant at exposed inside edge and on rivets. Lap joints in the direction of water flow if possible.
3. Provide butt type expansion joints in gutters at spacing appropriate for the type material used to fabricate gutters. Refer to SMACNA Manual Figure 1-7. Maximum length of gutters 50 feet.
4. Provide downspout outlets in downspout locations. Refer to SMACNA Manual Figure 1-33B. Gutter outlet tubes tabbed a minimum of 3/4 inch, set in a bead of butyl sealant and secured to gutter with a minimum of two rivets per tab.
5. Attachment:
 - a. Provide top and bottom hangers as shown in detail drawings. Space be 32 inches on center or every other panel rib on standing seam metal roofs. Provide a minimum of two fasteners to secure top hanger to standing seam and one fastener to secure top hanger to bottom hanger. Provide two fasteners to secure each lower hanger to gutter.
 - b. Space brackets and spacers 36 inches on center, staggered. Rivet spacers to both sides of the gutter only. Secure brackets to wood blocking with two stainless steel fasteners.
6. Hang gutters level.

M. Downspouts:

1. Fabricate downspouts in 10-foot lengths. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-32B.

2. Tie into below grade storm drainage system or if no below grade system is present, kick-out above grade onto concrete splash blocks. Fill in soil to provide slope away from building.
3. Provide square to round transition to tie into below grade storm drainage system.
4. Secure to the structure with two-piece hangers aligned with wall girts. Prime and paint hangers to match downspouts. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-35H.
5. Fashion downspouts to run back to (at overhangs) and parallel to the facility walls.
6. Provide discharge elbow at the base of downspout where it kicks out onto splash pan or splash block.
7. Where downspouts discharge onto lower adjacent roof areas, provide splash pans at discharge as specified below.

N. Fasteners:

1. Install fasteners as specified, detailed and as published and designed by the fastener manufacturer for the materials being joined.
2. Consult and follow the fastener manufacturer's published literature for proper preparation and installation.
3. Properly seat fasteners, do not over drive or under drive. Do not bend, dent or warp sheet metal during fastener installation.
4. Pre-drill substrates where required to properly install fasteners.
5. Replace improperly driven/installed fasteners with properly sized fastener for each application.
6. Rivets: #44 stainless steel rivets with stainless steel mandrel with factory painted head to match adjacent sheet metal. Length of rivet to properly fasten particular sheet metal components.

O. Sealants:

1. Seal sheet metal joints and junctures between sheet metal and adjacent substrates with specified, compatible sealants.
2. Clean sheet metal and adjacent substrates free of dust, debris and incompatible coatings.
3. Prime and prepare sheet metal and adjacent substrates to meet sealant manufacturers' published literature and recommendations.
4. Inspect sheet metal joints before sealant application. Fasten and/or tightly fit joints to prevent sealed joints from buckling or opening.
5. Ensure environmental conditions area dry and precipitation is not anticipated during, or no less than 24 hours after, sealant application. Follow sealant manufacturers' published literature regarding environmental conditions.
6. Apply and tool sealant as indicated and recommended in sealant manufacturers' published literature.

3.4 CLEAN UP

- A. Dispose of excess materials and remove debris from site. Maintain construction related debris in approved disposal containers.
- B. Clean work in accordance with manufacturer's recommendations.
- C. Protect work against damage until final acceptance. Replace or repair, to the satisfaction of the Owner, work that becomes damaged prior to final acceptance.

- D. Touch up minor scratches and abrasions with touch up paint supplied by the metal roof system manufacturer. Minor scratches are considered scratches that extend into the finish only, not down to the base metal:
 - 1. Scratches that extend into the paint finish only and not down to the base metal.
 - 2. Scratches that do not extend more than 4 inches in length.
 - 3. Where no more than 2 scratches in lengths of less than 4 inches are present in a 1 sf area of a metal roof panel.
- E. Replace significantly scratched metal panels.
 - 1. Scratches that extend down to the base metal.
 - 2. Scratches that extend more than 4 inches in length.
 - 3. Where more than 2 scratches in lengths less than 4 inches are present in a 1 sf area of a metal roof panel.
 - 4. Where touch up paint is visible when viewing the metal roof panels from a common pedestrian area from the ground as judged by the Owner and Engineer.
- F. Do not allow panels or trim to come in contact with dissimilar metals including copper, lead or graphite. Control water run-off from dissimilar materials.
- G. Remove metal dust and cut debris produced by cutting, drilling and fastening. Do not allow metal dust and cut debris to remain on pre-finished metal panels.
- H. Prevent metal chips, shavings, etc. from staining the building, roof and associated fixtures and components. Remove rust stains.
- I. Prevent damage during cleaning activities. Do not allow cleaning materials and methods to damage building, grounds, components or fixtures.
- J. Ensure trash and debris, especially nails and shingles, are removed from the yard and grounds. Place nails, shingles, sharp sheet metal scraps and other construction related debris in suitable waste containers.

END OF SECTION

THERMOPLASTIC SINGLE PLY ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide an adhered, thermoplastic membrane and flashings to provide a permanently watertight gutter lining system.

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 05 01 30 "Steel Gutter Repair"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 01 50 "Preparation for Reroofing"
4. Section 07 22 16 "Roof Insulation"
5. Section 07 41 13 "Metal Roof Panels"

1.3 REFERENCES

A. Refer to the following references, current edition for specification compliance:

1. ASTM International
2. National Roofing Contractors Association (NRCA)
3. Underwriters Laboratory (UL)
4. FM Global
5. Single Ply Roofing Institute

1.4 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

1.5 QUALITY ASSURANCE

A. Manufacturer Requirements:

1. Written contractor/installer approval program.
2. Products 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.

1.6 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.

1.7 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. Prior to and during application, remove dirt, debris and dust from surfaces, either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- H. 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.
- I. If unusual or concealed condition is discovered; stop work and notify Engineer of such condition in writing within 24 hours.
- J. 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.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Subject to compliance with requirements herein, provide roof system from a single source. Manufacturers:
 - 1. Fibertite
 - 2. Carlisle Syntec
 - 3. Flex

2.2 MEMBRANE MATERIALS

- A. Membrane: Thermoplastic membrane with fiberglass and/or polyester reinforcement meeting ASTM D 4434 or ASTM D 6754. Acceptable products:
 - 1. Fibertite 60-mil SM
 - 2. Carlisle Sure-Flex KEE HP 60-mil Membrane
 - 3. Flex 60-mil Plus Elvaloy KEE
- B. Flashing/Stripping Membrane: Non fleeceback, thermoplastic membrane reinforced with fiberglass. Utilize asphalt resistant flashing membrane where in contact with residual asphaltic materials or as required by the manufacturer.
 - 1. Fibertite 60-mil SM
 - 2. Carlisle Sure-Flex KEE HP 60-mil Membrane
 - 3. Flex MF/R 60-mil Plus Elvaloy KEE

- C. Membrane and Flashing Membrane Color: White.

2.3 ADHESIVES

- A. Membrane Adhesive: Membrane manufacturer's solvent based adhesive.
 - 1. Fibertite FTR 190e
 - 2. Flex LA432M
 - 3. Carlisle Sure-Flex PVC Low VOC Bonding Adhesive

2.4 RELATED MATERIALS

- A. Sealant: Manufacturer's multi-purpose sealant.
- B. Primary Membrane Cleaner: High-quality solvent cleaner provided by membrane manufacturer for use as a general membrane cleaner.
- C. Pre-weld Cleaner: High-quality solvent based seam cleaner with moderate evaporation rate as recommended and provided by membrane manufacturer.
- D. Seam Sealer: Free-flowing, translucent polymeric material designed for sealing cut edges at exposed reinforcing.
- E. Polymer Clad Metal: Refer to Section 07 62 00 "Sheet Metal Flashing and Trim".

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 MEMBRANE INSTALLATION (ADHERED)

- A. Over the properly installed and prepared substrate, spread 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. Hot-air weld flashings at their joints and at their connections with the roof membrane.
- F. 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.

3.4 HOT-AIR WELDING OF SEAM OVERLAPS

- A. General
 - 1. Hot-air weld seams.
 - a. Minimum 4 inch wide membrane overlap when hand-welding, except for certain details.
 - b. Minimum width of hot-air weld is 1-1/2 inches.
 - c. 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 inchwide nozzle is recommended for use. For corners and compound connections, the 3/4 inchwide nozzle is recommended for use.

C. **Quality Control of Hot-Air Welded Seams**

1. Check hot-air welded seams for continuity using a rounded screwdriver or seam probe. 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.

3.5 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.

3.6 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.

3.7 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

FORM OF PROPOSAL

T2-MHC Roof Replacement
NC Ports Authority
SCO-ID #. 23-27381-01A

Contract: Single Prime
Bidder: _____
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 Ports Authority

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

T2-MHC 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, and the

Ports Authority 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:

_____ Lic _____

Plumbing Subcontractor:

_____ Lic _____

Mechanical Subcontractor:

_____ Lic _____

Electrical Subcontractor:

_____ 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.

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.	<u>Replace Deteriorated Steel Purlins</u>	<u>LF</u>	Unit Price (\$)_____
No. 2.	<u>Replace Deteriorated Steel Gutter Supports</u>	<u>LF</u>	Unit Price (\$)_____

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. 3 _____ Addendum No. 5 _____ Addendum No. 6 _____

Addendum No. 2 _____ Addendum No. 4 _____ Addendum No. 6 _____ Addendum No. 7 _____

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.

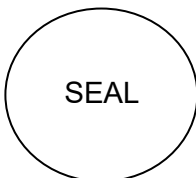
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure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

_____ T2-MHC 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

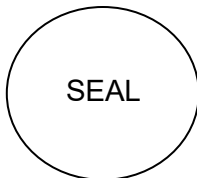
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement. The Bidder agrees to make a Good Faith Effort to utilize minority suppliers where possible.

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)

T2-MHC Roof Replacement

(Project Name)

Project ID# 23-27381-01A 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.**

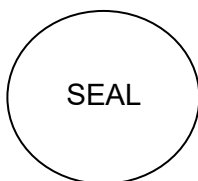
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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)

T2-MHC Roof Replacement

(Project Name)

Project ID# 23-27381-01A 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:

- 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.
- Copies of quotes or responses received from each firm responding to the solicitation.
- A telephone log of follow-up calls to each firm sent a solicitation.
- 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.
- Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- Copy of pre-bid roster
- Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- Letter detailing reasons for rejection of minority business due to lack of qualification.
- 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.

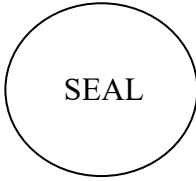
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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 Ports Authority 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 Ports Authority 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:

T2-MHC Roof Replacement

Consisting of the following sheets: G-001, G-002, XR101, XR102, XR301, XR501, XR502, XR503, XR504

Dated: November 17, 2023 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 within 120 consecutive calendar days from said date. 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:

_____) (\$ _____)

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)

Contractor: (Trade or Corporate Name)

By: _____

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

Attest: (Corporation)

By: _____

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

The State of North Carolina through*

(CORPORATE SEAL)

(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 T2-MHC 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)

Witness:

Countersigned:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

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

Contractor: (Trade or Corporate Name)

By: _____

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

(Surety Company)

By: _____

Title: _____
(Attorney in Fact)

(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 T2-MHC 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)

Witness:

Countersigned:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

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

Contractor: (Trade or Corporate Name)

By: _____

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

(Surety Company)

By: _____

Title: _____
(Attorney in Fact)

(Surety Corporate Seal)

Sheet for Attaching Power of Attorney

Sheet for Attaching Insurance Certificates

APPROVAL OF THE ATTORNEY GENERAL

**CERTIFICATION BY THE OFFICE OF STATE
BUDGET AND MANAGEMENT**

Provision for the payment of money to fall due and payable by the

under this agreement has been provided for by allocation made and is available for the purpose of carrying out this agreement.

This _____ day of _____ 20____.

Signed _____
Budget Officer

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

CONTRACTOR: _____

Page 1 of _____

PROJECT: T2-MHC 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: T2-MHC Roof Replacement

[illegible]

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

SECTION 316

CONTRACTOR'S	Owner	<input type="checkbox"/>
AFFIDAVIT OF	Designer	<input type="checkbox"/>
RELEASE OF LIENS	Contractor	<input type="checkbox"/> Code _____ Item _____
	Surety	<input type="checkbox"/>
	Other	<input type="checkbox"/>

For Use with State of North Carolina Projects

TO: (OWNER)

State of North Carolina Ports Authority
2202 Burnett Boulevard
Wilmington, NC 28401

CONTRACT FOR: T2-MHC Roof Replacement

CONTRACT DATE:

SCO PROJECT ID: 23-27381-01A

PROJECT INFORMATION: T2-MHC Roof Replacement
(Name & Location) 113 Arendell Street
Morehead City, NC 28557

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

ATTACHED HERETO:

CONTRACTOR:

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'S

Contractor ☐ Code _____ Item _____

AFFIDAVIT OF PAYMENT

Surety ☐

OF DEBTS AND CLAIMS

Other ☐

For Use with State of North Carolina Projects

TO (OWNER)

State of North Carolina Ports Authority
2202 Burnett Boulevard
Wilmington, NC 28401

CONTRACT FOR: T2-MHC Roof Replacement

CONTRACT DATE:

PROJECT INFORMATION:

Name & Location: T2-MHC Roof Replacement
113 Arendell Street
Morehead City, NC 28557

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:

- Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
- 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.
- 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:

CONSENT OF SURETY

COMPANY TO FINAL

PAYMENT

For Use with State of North Carolina Projects

Owner ☐

Designer ☐

Contractor ☐ SCO ID # _____

Surety ☐

Other ☐

PROJECT Name & Location: T2-MHC Roof Replacement
113 Arendell Street
Morehead City, NC 28557

TO: (OWNER)

State of North Carolina Ports Authority
2202 Burnett Boulevard
Wilmington, NC 28401

CONTRACT FOR: T2-MHC Roof Replacement

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)

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

1.01 FROM:

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

1.02 FOR:

- A. Owner: North Carolina Ports Authority
- B. Project: T2-MHC Roof Replacement
- C. REI Project No. 023WLM-020
- D. Address: 113 Arendell Street, Morehead City, North Carolina 28557

1.03 ACKNOWLEDGEMENT

- A. This is to advise the Owner that having thoroughly reviewed the Specifications and Drawings contained within the Project Manual dated November 17, 2023, 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 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 before 5 days of the bid due date or as otherwise outlined in the Instructions to Bidders, 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.

1.04 EXECUTED BY:

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

END OF SECTION

CONTRACTORS GUARANTEE

Know all men by these presents, that we, (Contractor) _____, having installed roof system, flashings and sheet metal on the T2-MHC Roof Replacement under contract between Owner (Owner) and Contractor, unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of 12 months following the date of final acceptance of the work which occurred on _____, 20____; and shall replace such defective materials or workmanship without cost to the Owner. Where items of equipment or material carry a manufacturer's warranty for any period in excess of 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. 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 final acceptance, whichever occurred first, in accordance with the applicable law.

We, Contractor, 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.

We, Contractor, warrant the materials and workmanship against leakage and defects due to faulty materials, workmanship and contract negligence for a period of 24 months following the date of final acceptance of the work. We, Contractor, agree that should any leakage 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, Contractor, agree to attend one post construction field inspection no earlier than one month prior to the Guarantee expiration date and to complete corrective actions requested by Owner, Engineer, or Manufacturer at no additional cost to the Owner.

Signature: _____ Title: _____

_____(State), County of _____

I, _____, a Notary Public for _____ County, _____ (State), do hereby certify that _____ 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____.

Notary Public (OFFICIAL SEAL)

My commission expires _____, 20____.

END OF DOCUMENT

NORTH CAROLINA STATE PORTS AUTHORITY

T2-MHC ROOF REPLACEMENT

113 ARENDELL STREET
MOREHEAD CITY, NC 28557
SCO# 23-27381-01A
REI PROJECT NO. 023WLM-020

DATE: NOVEMBER 17, 2023



A VICINITY MAP
SCALE: N.T.S.



B SITE PLAN
SCALE: N.T.S.

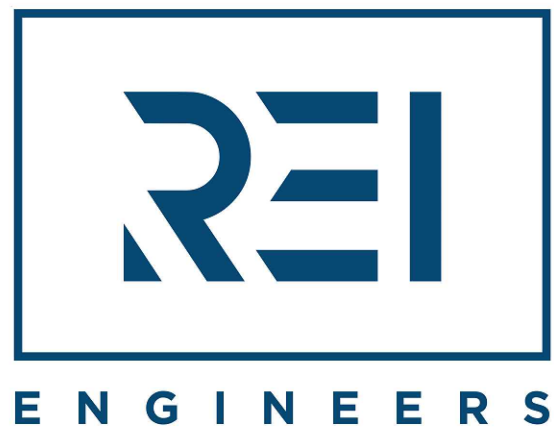
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ABBREVIATION LIST:
AB ABANDONED
ALUM. ALUMINUM
BLDG. BUILDING
CJ CONTROL JOINT
DS DOWNSPOUT
EJ EXPANSION JOINT
EPDM ETHYLENE PROPYLENE DIENE MONOMER
EX. EXISTING
GALV. GALVANIZE
GA. GAUGE
HT HEIGHT
MAX. MAXIMUM
MIN. MINIMUM
N.I.C. NOT IN CONTRACT
NOM. NOMINAL
N.T.S. NOT TO SCALE
O.C. ON CENTER
OF OVERFLOW
PS PRESSURE SENSITIVE
PVC POLYVINYL CHLORIDE
SF SQUARE FEET
S.S. STAINLESS STEEL
SIM. SIMILAR
TERM. TERMINATE/TERMINATION
TYP. TYPICAL

KEY
— ROOF EDGE
⊗ ROOF AREA INDICATOR
□ INCLUDED IN CONTRACT
□ NOT IN CONTRACT
▨ STAGING AND MATERIAL STORAGE

DRAWING INDEX:
G-001 COVER
G-002 BUILDING CODE SUMMARY
XR101 ROOF PLAN
XR102 ROOF WIND UPLIFT PLAN
XR301 ROOF SYSTEMS
XR501 DETAILS
XR502 DETAILS
XR503 DETAILS
XR504 DETAILS

BUILDING CODE REFERENCE:
2018 NCBC: BUILDING
2018 NCBC: ENERGY CONSERVATION
2018 NCBC: EXISTING BUILDING
2018 NCBC: FIRE PREVENTION
2018 NCBC: FUEL GAS
2018 NCBC: MECHANICAL
2018 NCBC: PLUMBING



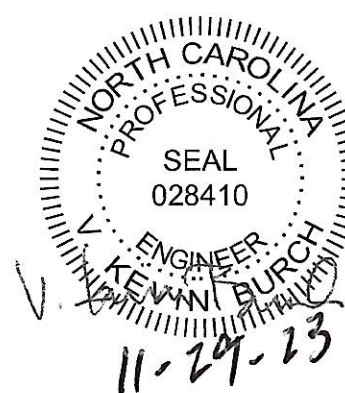
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AUTHORITY
T2-MHC ROOF
REPLACEMENT

113 ARENDELL STREET
MOREHEAD CITY, NC 28557

PROJECT NO:

023WLM-020

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SHEET TITLE

COVER

DRAWING

G-001

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR COMMERCIAL ROOF REPLACEMENT PROJECTS
(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: NCSPA T2-MHC ROOF REPLACEMENT
Address: 113 ARENDELL STREET MOREHEAD CITY, NC 28557
Owner/ Authorized Agent: BOBBY SWEAT Phone #: 910-746-6407
Email: BOBBY.SWEAT@NCPORTS.COM
Owned By: ☐ City/County ☐ Private ☒ State
Code Enforcement Jurisdiction: ☐ City ☐ County ☒ State

ENGINEER:
FIRM REI Engineers NAME KEVIN BURCH LICENSE # 028410 PHONE # 252-916-0067 EMAIL KBURCH@reiengineers.com

2018 NORTH CAROLINA CODE FOR:
☒ Roof Replacement ☐ Roof Recover ☐ Roof Repair

2018 NORTH CAROLINA EXISTING BUILDING CODE
CHAPTER 5 CLASSIFICATION OF WORK:
☒ Section 503: Alteration – Level 1 (Renovation) ☐ Section 504: Alteration – Level 2 (Alteration) ☐ Section 505: Alteration – Level 3 (Reconstruction)

BASIC BUILDING DATA
Constructed Date: PRIOR 1990 Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ V-A
(check all that apply) ☐ I-B ☒ II-B ☐ III-B ☐ IV ☐ V-B
Sprinklers: ☐ No ☐ Partial ☒ Yes: ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☐ No ☒ Yes: Class: ☐ 1 ☐ 2 ☐ 3 ☐ Wet ☐ Dry
Fire District: ☐ No ☒ Yes (Primary)
Building Height: 43 feet Building Area: 68,245 square feet Number of Stories: 1
Allowable Height: 75 feet Allowable Area: 70,000 square feet Allowable Stories: 3

OCCUPANCY
Assembly: ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business: ☐ B
Educational: ☐ E
Factory: ☐ F-1 (Moderate) ☐ F-2 (Low Hazard)
High Hazard: ☐ H-1 (Detonate) ☐ H-2 (Deflagrate) ☐ H-3 (Combust) ☐ H-4 (Health) ☐ H-5 (HPM)
Institutional: ☐ I-1 Condition 1 ☐ I-1 Condition 2 ☐ I-2 ☐ I-3 ☐ I-4
Mercantile: ☐ M
Residential: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage: ☒ S-1 (Moderate) ☐ S-2 (Low Hazard)
Utility: ☐ U

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE PROTECTION RATING		DESIGN # FOR RATED ASSEMBLY	COMMENTS
	REQUIRED	PROVIDED		
Roof Construction ALL Sectors Deck Type	0 HR	0 HR	N/A	N/A

STRUCTURAL SUMMARY

Components & Cladding Wind Uplift Resistance: (ASCE 7-10)
Basic Wind Speed 144 mph Risk Category II
Internal Pressure Coeff. 0.18 Exposure Category D

Wind Uplift Nominal Design Pressures:
Zone 1* (Interior) N/A psf
Zone 1 (Field) -35 psf
Zone 2 (Perimeter) -61 psf
Zone 3 (Corner) -89 psf
Zone 2 OH (Perimeter) N/A psf
Zone 3 OH (Corner) N/A psf

Roof System Dead Load
Sector A Sector B
Existing System: 1.25 psf 1.25 psf
Replacement system 1.25 psf 1.25 psf

ENERGY SUMMARY

Roof Assembly Description: Refer to Specification Section 07 22 16 Roof Insulation
Code Compliance: 2018 NCEBC
Min. Required R-value: N/A-UNCONDITIONED



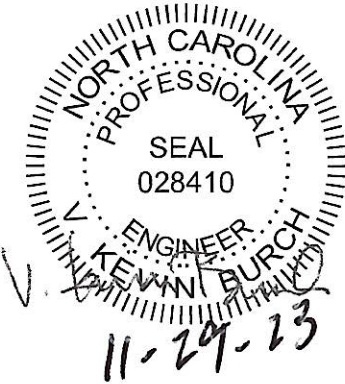
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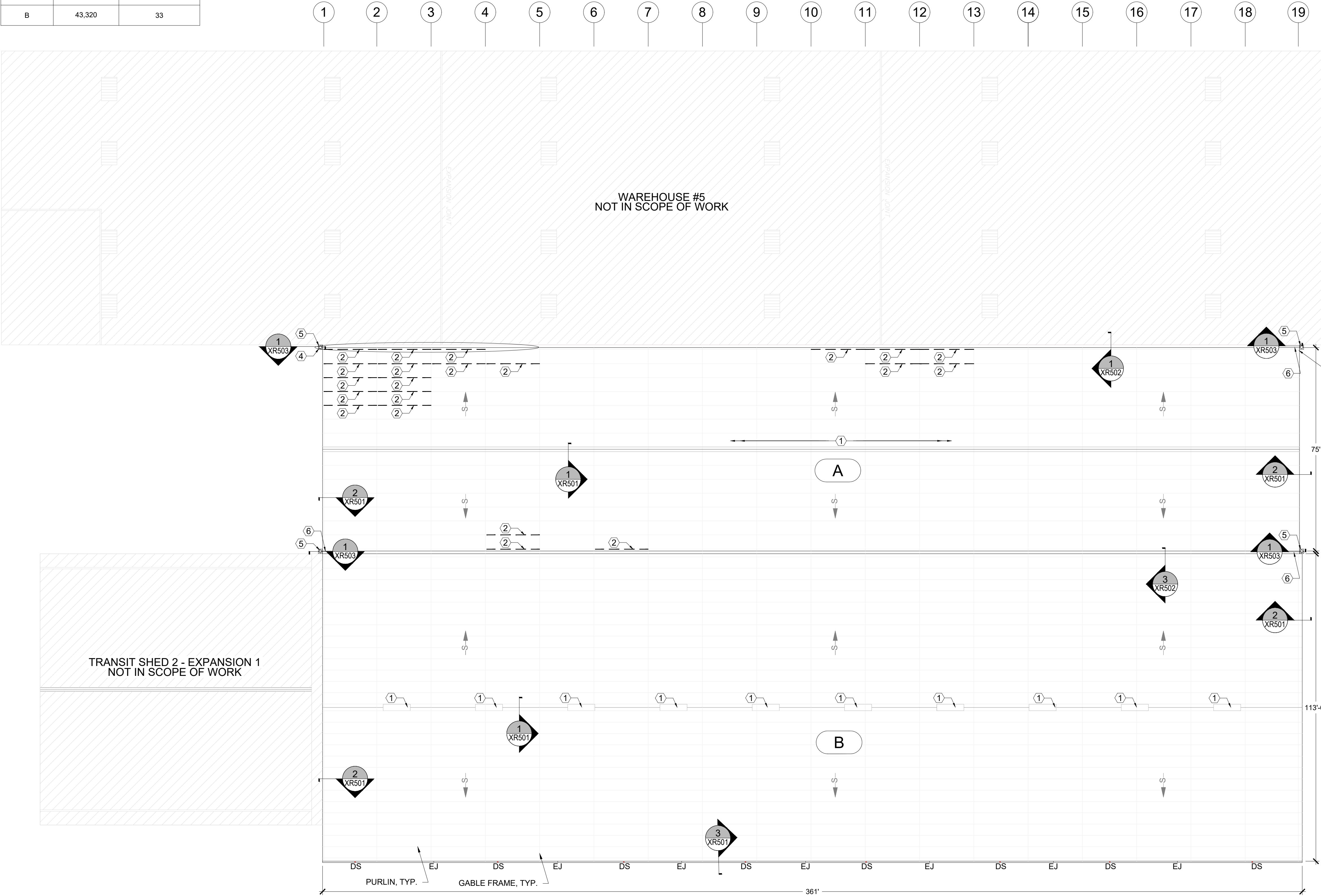
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COVER

DRAWING

G-002

ROOF SECTOR	SIZE (SQ. FT.)	MEAN HEIGHT (FT.)
A	28,510	33
B	43,320	33



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4. NOTES ARE INTENDED TO PROVIDE TYPICAL LOCATIONS OF WORK. IT IS THE CONTRACTORS RESPONSIBILITY TO QUANTIFY ALL LOCATIONS.
SHEET NOTES:
1. REMOVE AND DISPOSE OF THE EXISTING METAL RIDGE VENT.
2. PROVIDE NEW PURLIN ADJACENT TO EXISTING.
3. REMOVE AND REPLACE 3 EXISTING CORRODED 2'-6" LONG X 8 INCH WALL GIRTS. REMOVE AND REINSTALL WALL PANELS AS REQUIRED TO PERFORM WORK.
4. REMOVE AND REPLACE CORRODED (15) MC3X7.1 STEEL CHANNEL SUPPORTING GUTTER.
5. REMOVE AND DISPOSE OF THE EXISTING CONDUCTOR HEAD.
6. REMOVE AND REPLACE CORRODED (5) MC3X7.1 STEEL CHANNEL SUPPORTING GUTTER.

KEY	
—	ROOF EDGE
—EJ—	EXPANSION JOINT
—G—	GUTTER EDGE
—R—	RIDGE
-S>	STRUCTURAL SLOPE
XXXX	NOT IN CONTRACT
(XX)	ROOF AREA INDICATOR
(#)	NOTE NO.
(#)	TEST CUT LOCATION
(#)	DETAIL INDICATOR
(#)	SECTION INDICATOR
(#)	ELEVATION INDICATOR



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ROOF PLAN

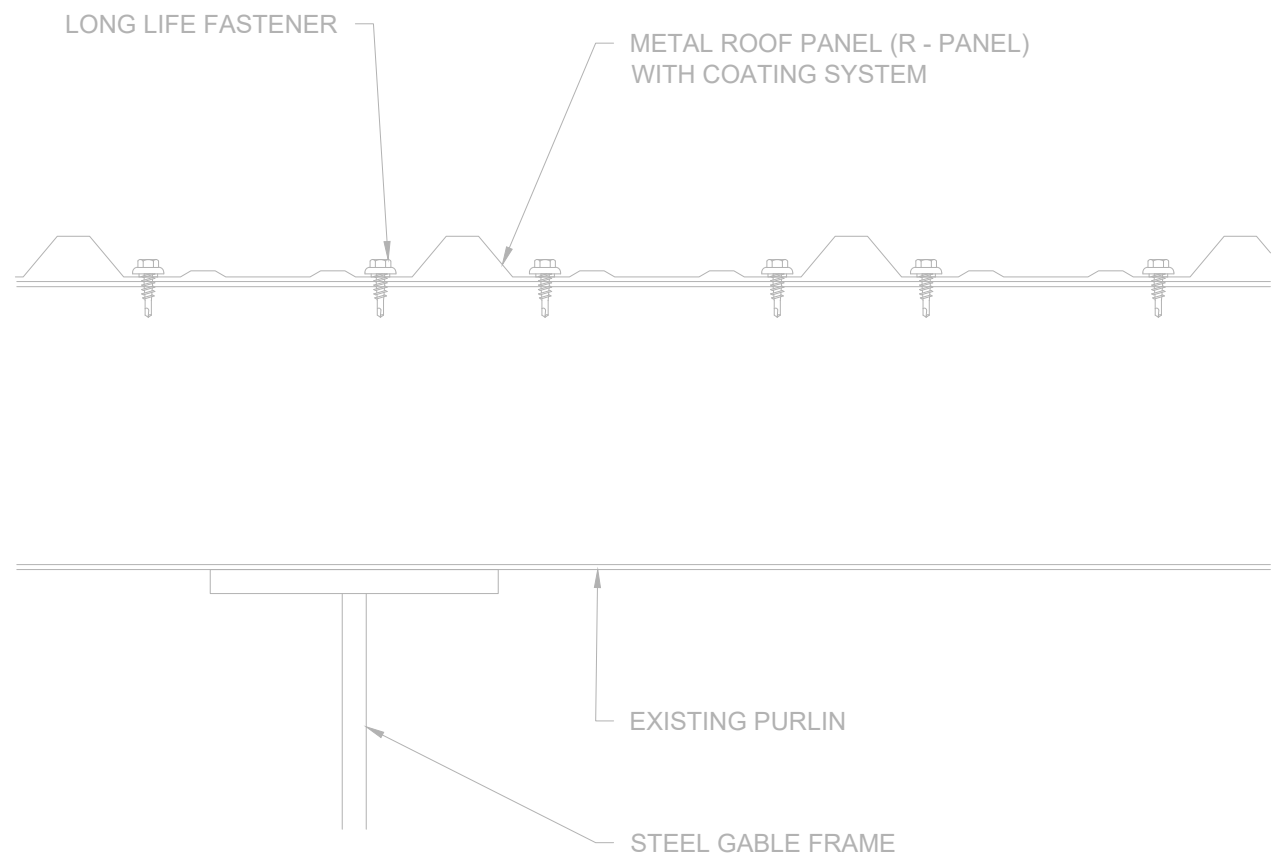
DRAWING

XR101

A PLAN
SCALE: 1"=20'



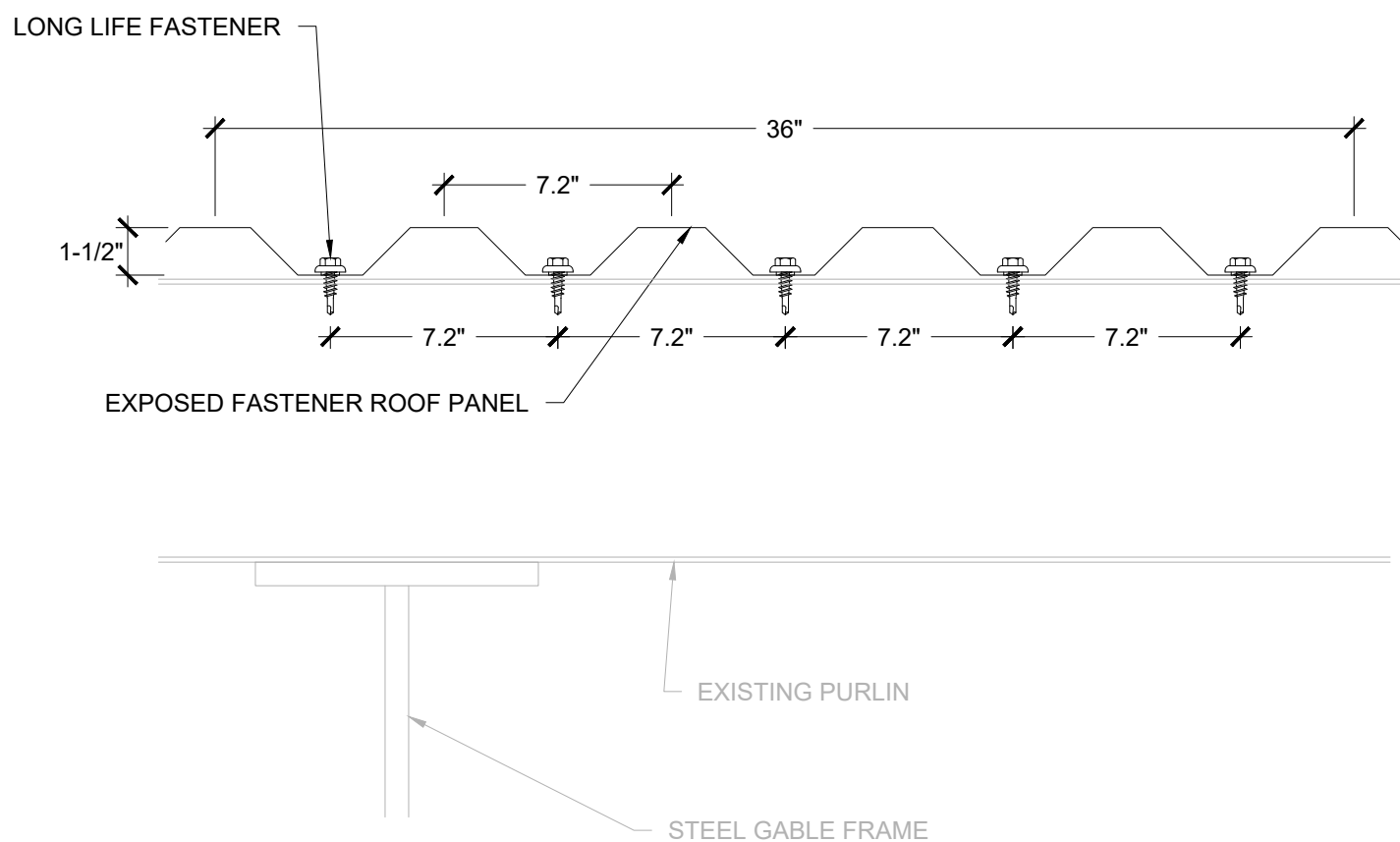




- NOTES:
- EXISTING ROOF PANELS, FASTENERS, SEALANTS TO BE REMOVED DOWN TO THE STEEL PURLINS.
 - GUTTER MEMBRANE AND INSULATION / SHEATHING TO BE REMOVED DOWN TO THE STEEL GUTTER LINER.

A EXISTING ROOF SYSTEM

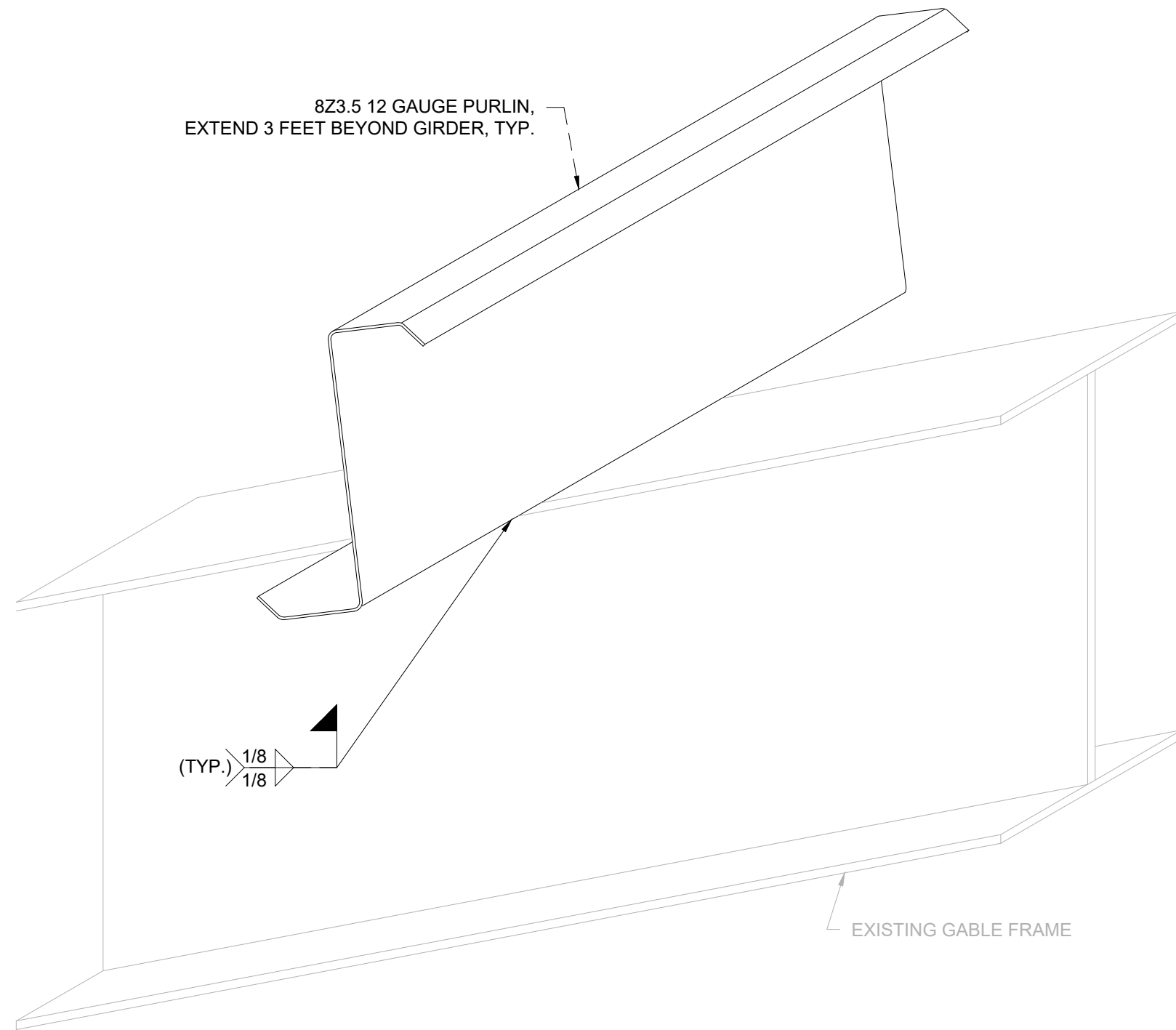
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- NOTES:
- STANDING SEAM METAL ROOF PANEL ASSEMBLY SHALL BE A TESTED ASSEMBLY IN ACCORDANCE WITH FM 4474, UL 580 OR UL 1897 TO RESIST THE WIND UPLIFT PRESSURES SPECIFIED IN SECTION 07 41 13 OF THE CONTRACT DOCUMENTS. PROVIDE SUBMITTAL INCLUDING DOCUMENTATION OF TESTED ASSEMBLY ALONG WITH ENGINEERED CALCULATIONS FOR ATTACHMENT OF THE STANDING SEAM METAL ROOF PANEL ASSEMBLY.
 - EXISTING DETERIORATED PURLINS TO BE SISTERED WITH NEW PURLINS, SEE ROOF PLAN FOR LOCATIONS.

B NEW METAL ROOF SYSTEM

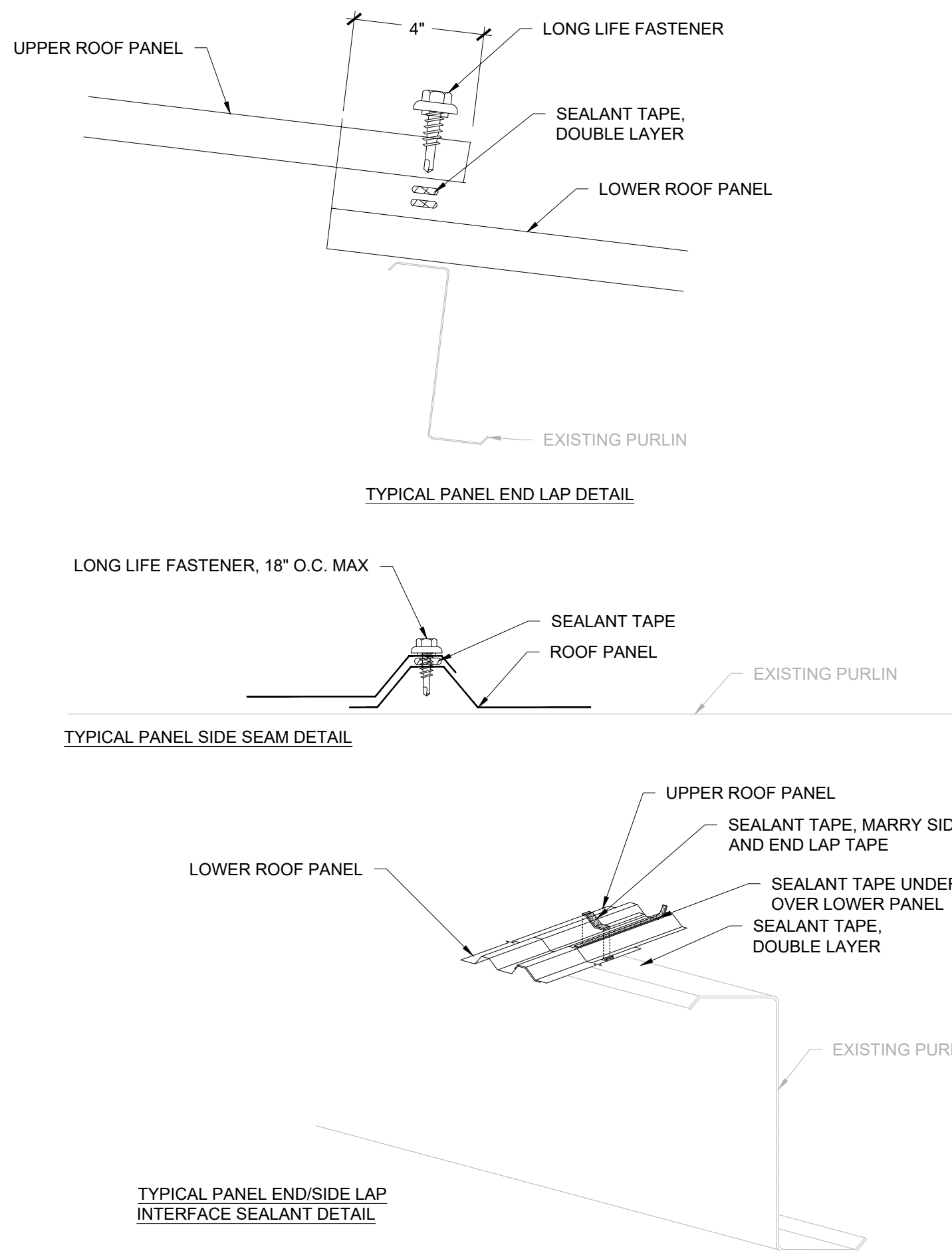
SCALE: None



- NOTES:
- CONTRACTOR IS TO INSTALL NEW PURLINS AS CLOSE TO EXISTING DETERIORATED MEMBERS AS POSSIBLE. PROVIDE 3' OVERLAP AT GABLE FRAME. WELD PURLINS TO GABLE FRAME FLANGE.
 - LEAVE EXISTING MEMBER IN PLACE UNLESS AT RISK OF FALLING. REMOVE ALL LOOSE MATERIAL FROM EXISTING PURLIN AND GABLE FRAME.
 - NOTIFY OWNER IF ADDITIONAL DETERIORATED PURLINS, OR GIRTS ARE FOUND BEYOND SCOPE OF WORK.
 - EXISTING LIGHT FIXTURES, SPRINKLER PIPES, BRACES AND CONDUIT FASTENED TO PANELS, STEEL PURLINS AND GABLE FRAME TO BE TEMPORARILY SUPPORTED, REROUTED AND RESECURED UPON COMPLETION OF THE WORK. PROVIDE ALL UTILITY DISCONNECTS, RECONNECTS AND UTILITY EXTENSIONS NECESSARY TO COMPLETE THE WORK.

C TYPICAL REPAIR PURLIN WELD DETAIL

SCALE: None



D TYPICAL SEAM DETAILS

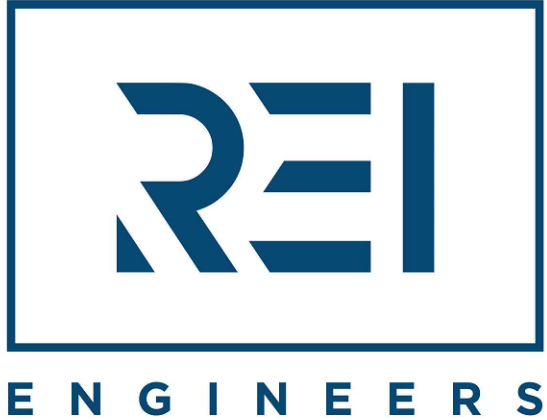
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- ANY WHOLE OR PARTIAL INSULATION BOARD OR PORTION OF ANY BOARD WHICH FALLS IN THE PERIMETERS & CORNERS OUTLINED SHALL BE SUBJECT TO THE FASTENING REQUIREMENTS FOR THE HIGHEST WIND ZONE ENCOUNTERED, ACROSS THE ENTIRE BOARD.



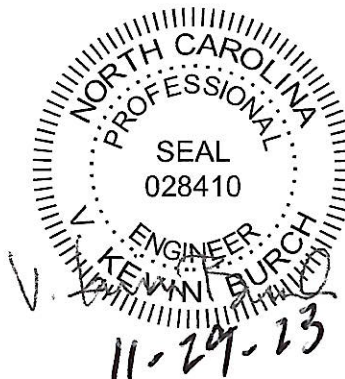
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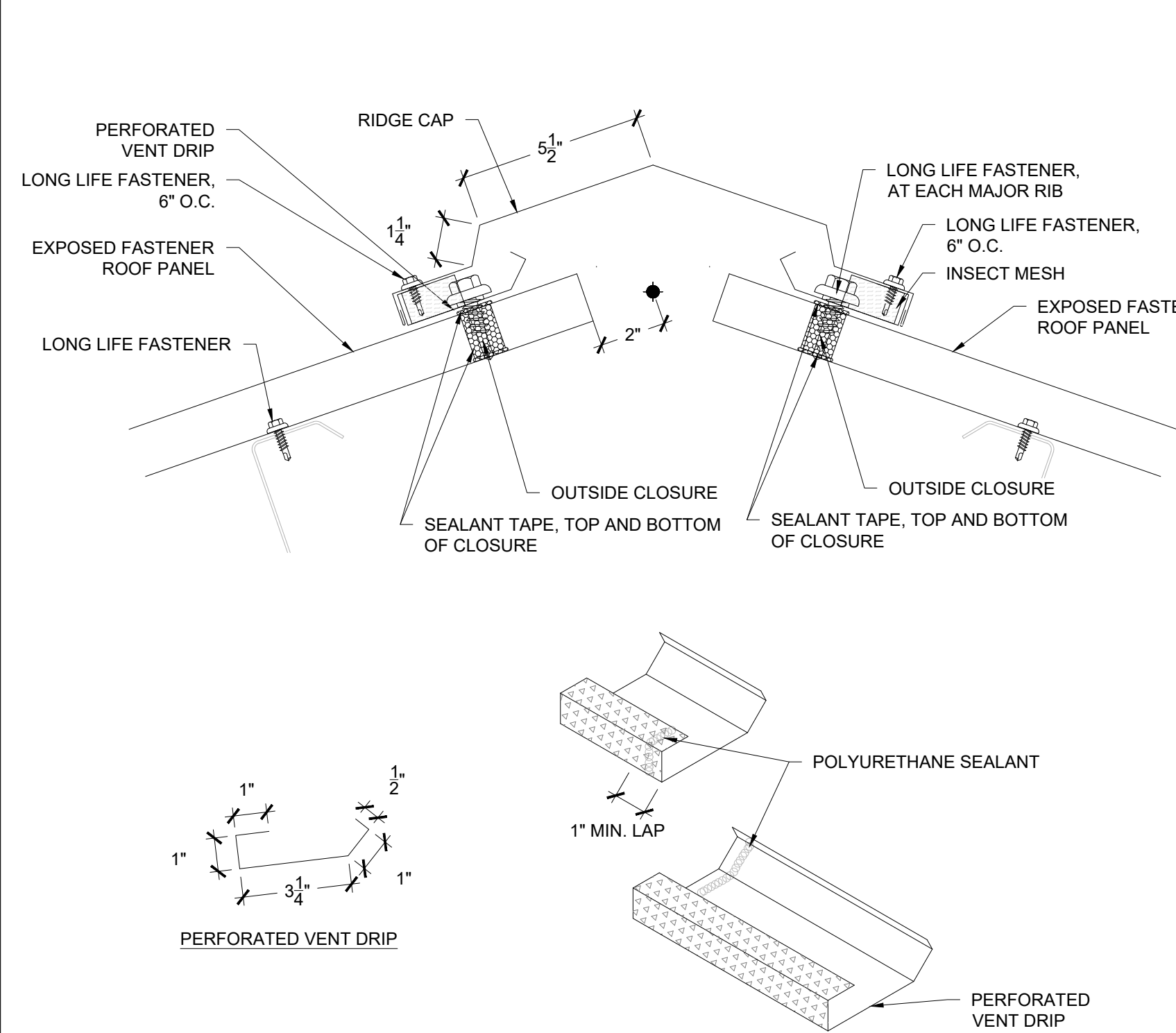
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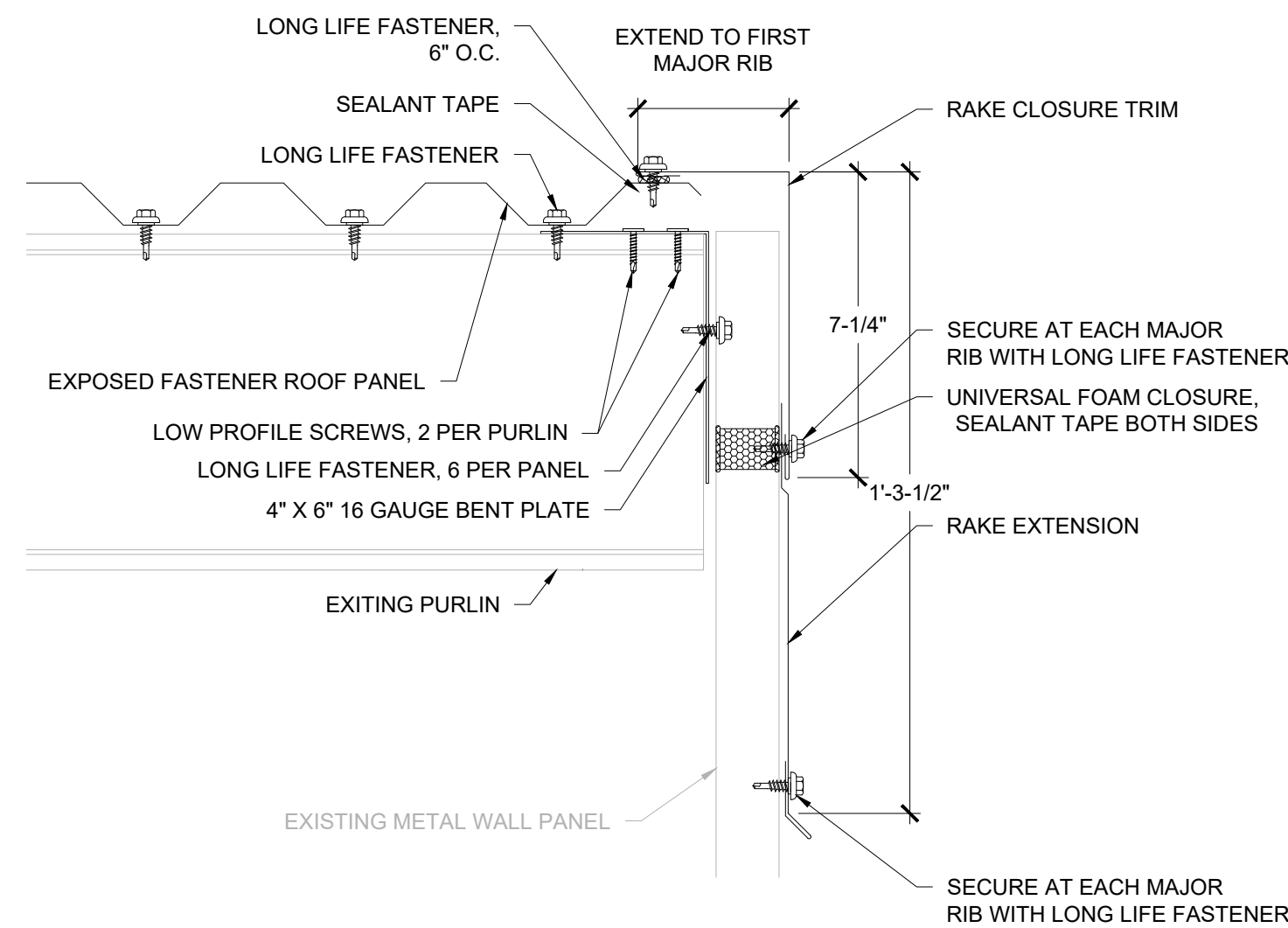
ROOF SYSTEMS

DRAWING

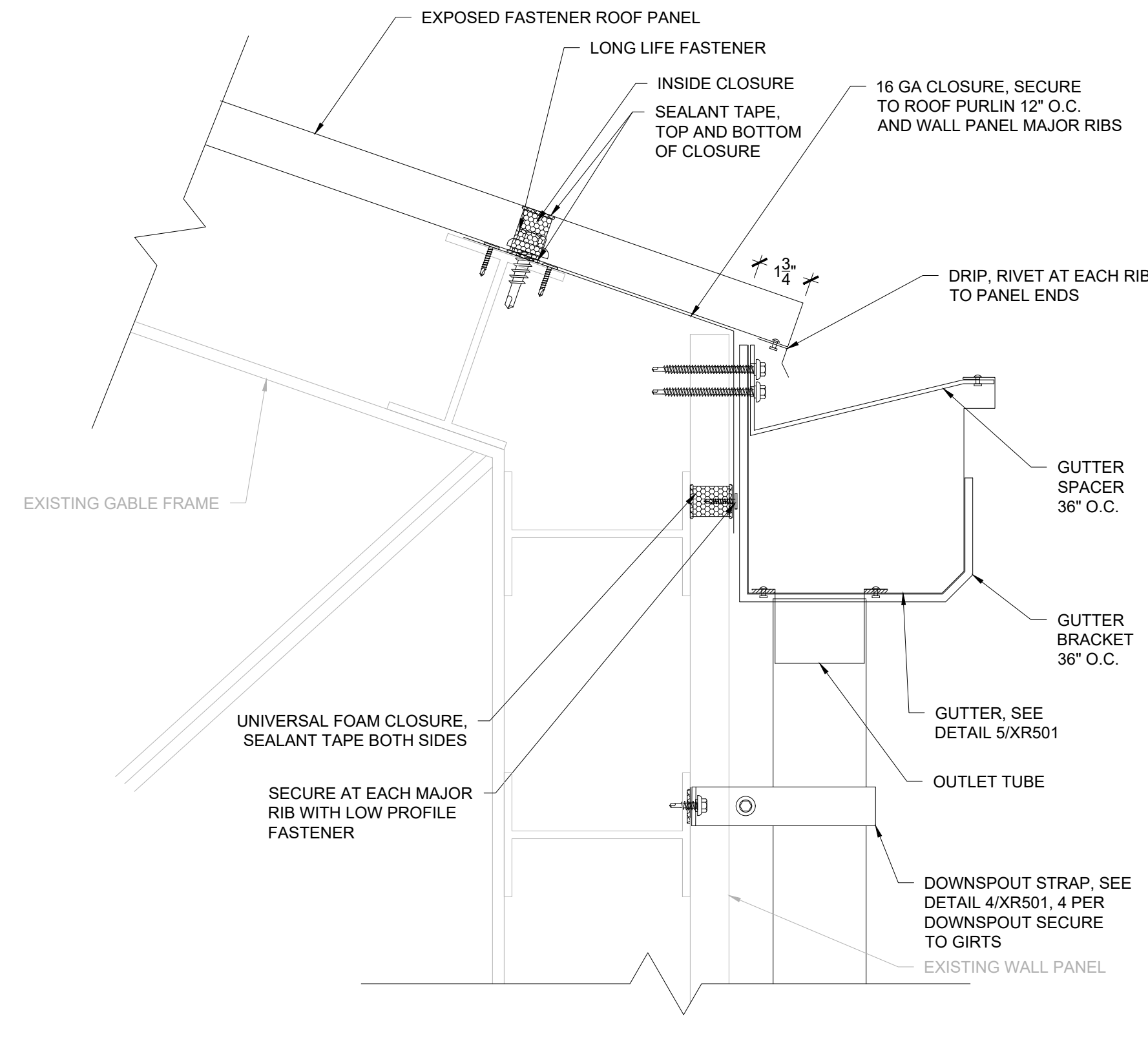
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1 VENTED RIDGE
SCALE: 3\"/>

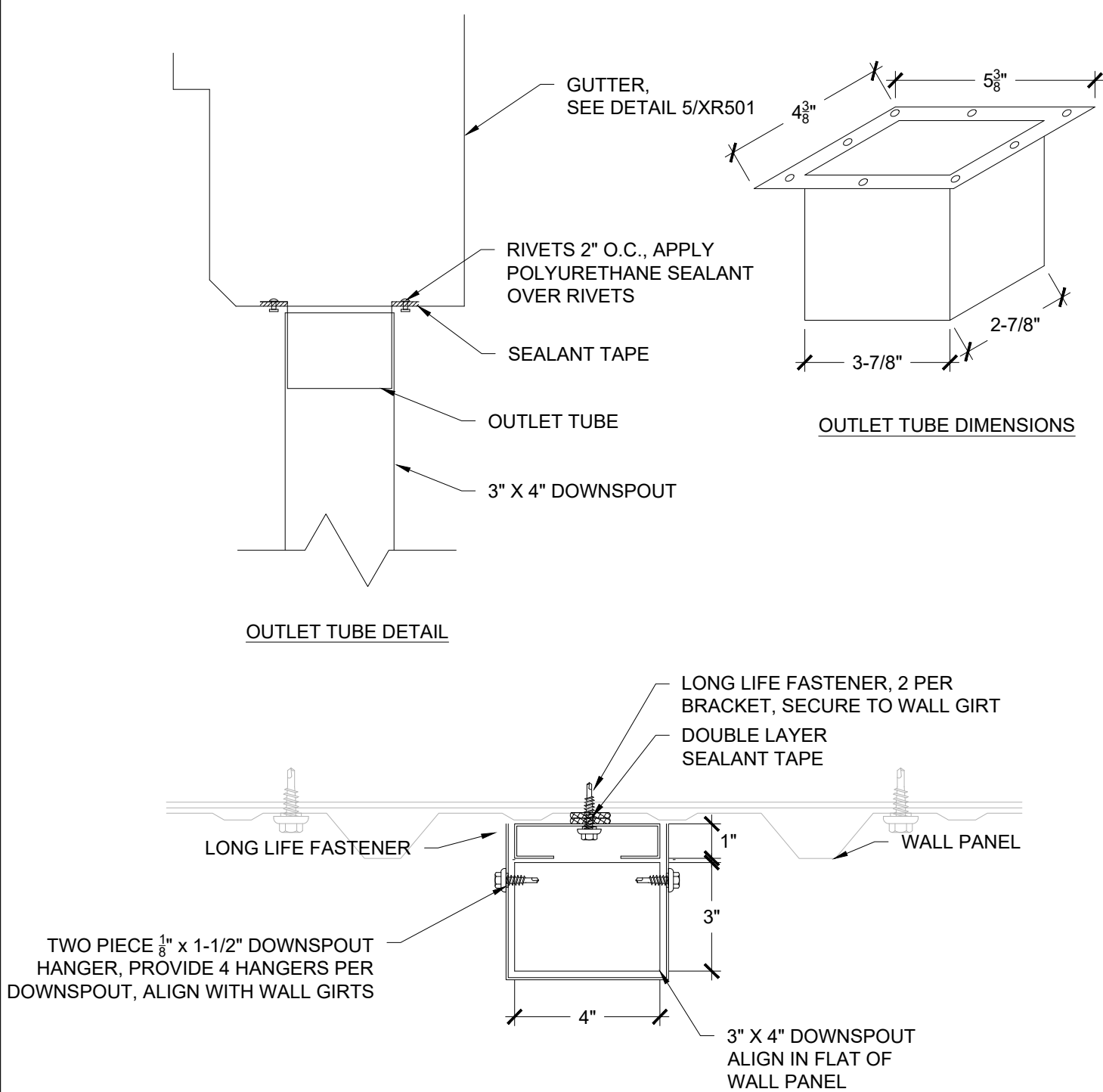


2 RAKE DETAIL
SCALE: 3\"/>



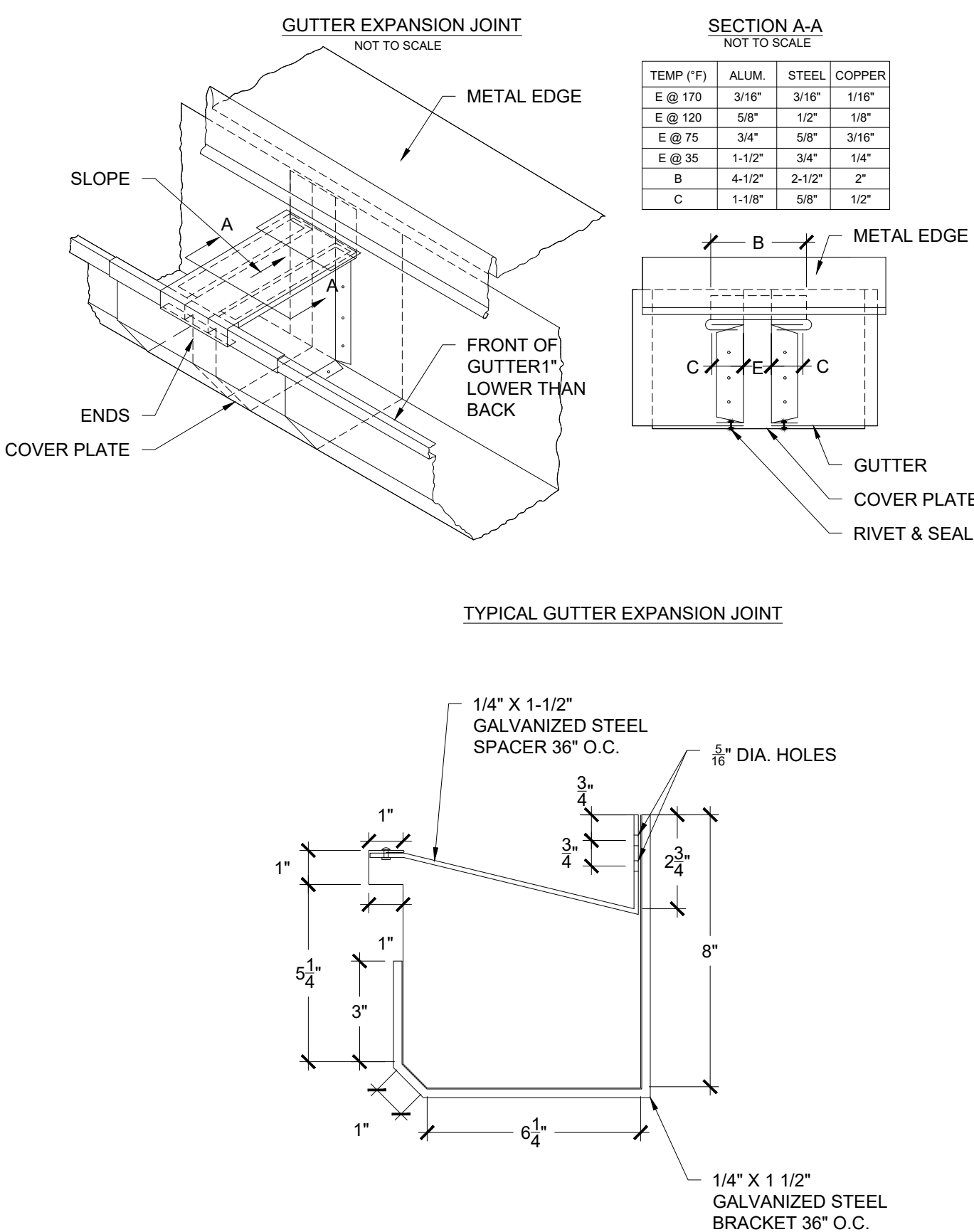
NOTES:
1) PROVIDE DOWNSPOUT ELBOWS AT BASE OF WALL. ALIGN DOWNSPOUTS TO AVOID WALL MOUNTED UTILITIES AND DOORS, PROVIDE ONE DOWNSPOUT PER GUTTER SECTION.

3 ROOF EAVE - GUTTER
SCALE: 3\"/>



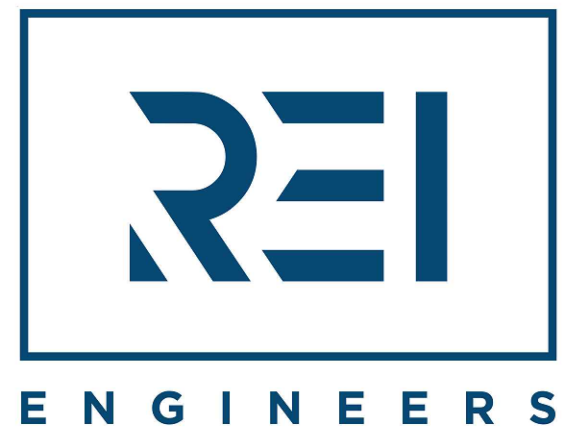
NOTES:
1) PROVIDE DOWNSPOUT ELBOWS AT BASE OF WALL. ALIGN DOWNSPOUTS TO AVOID WALL MOUNTED UTILITIES AND DOORS, PROVIDE ONE DOWNSPOUT PER GUTTER SECTION BETWEEN EXPANSION JOINTS.

4 DOWNSPOUT DETAIL
SCALE: 3\"/>



5 GUTTER DETAIL
SCALE: 3\"/>

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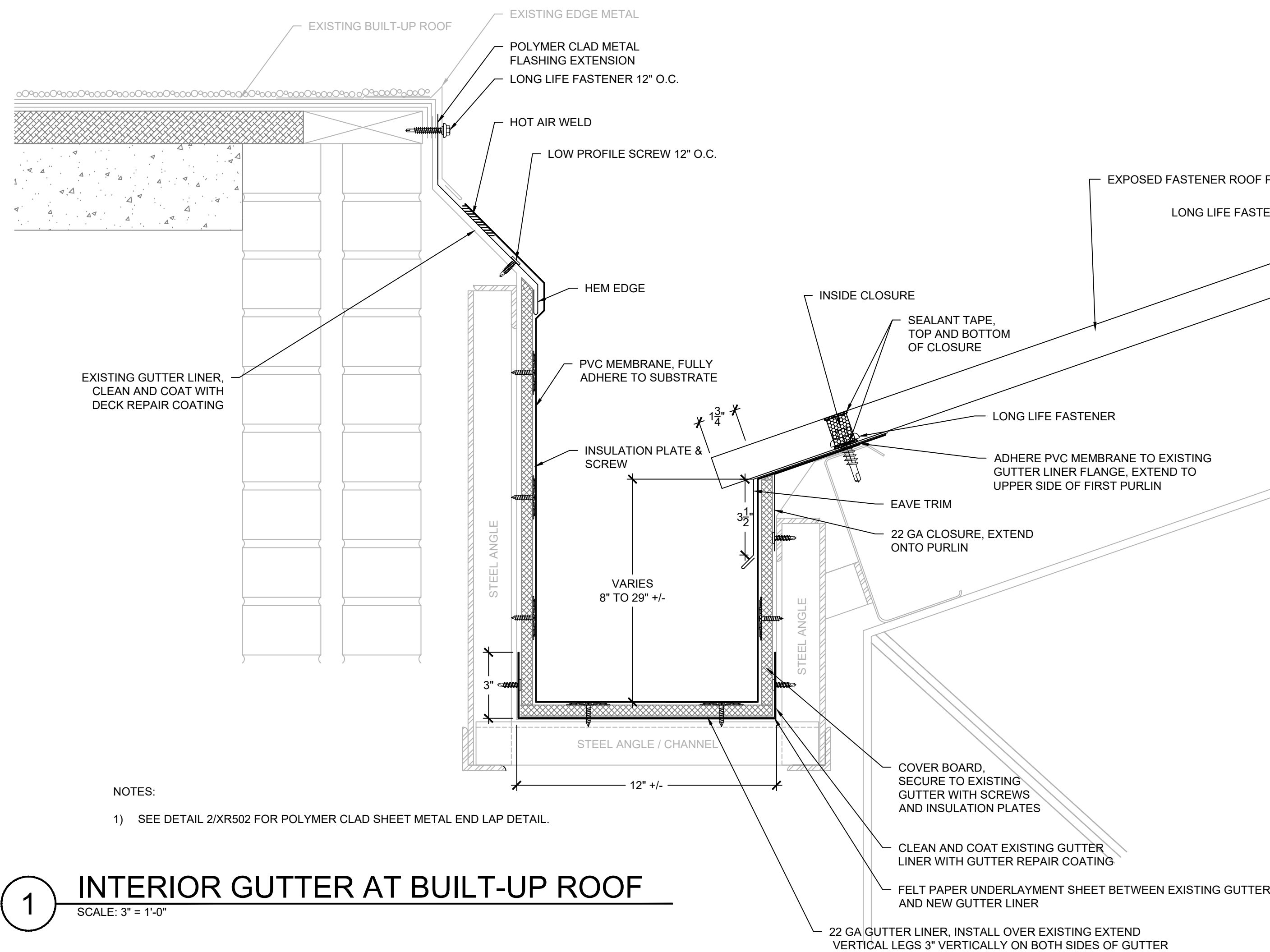
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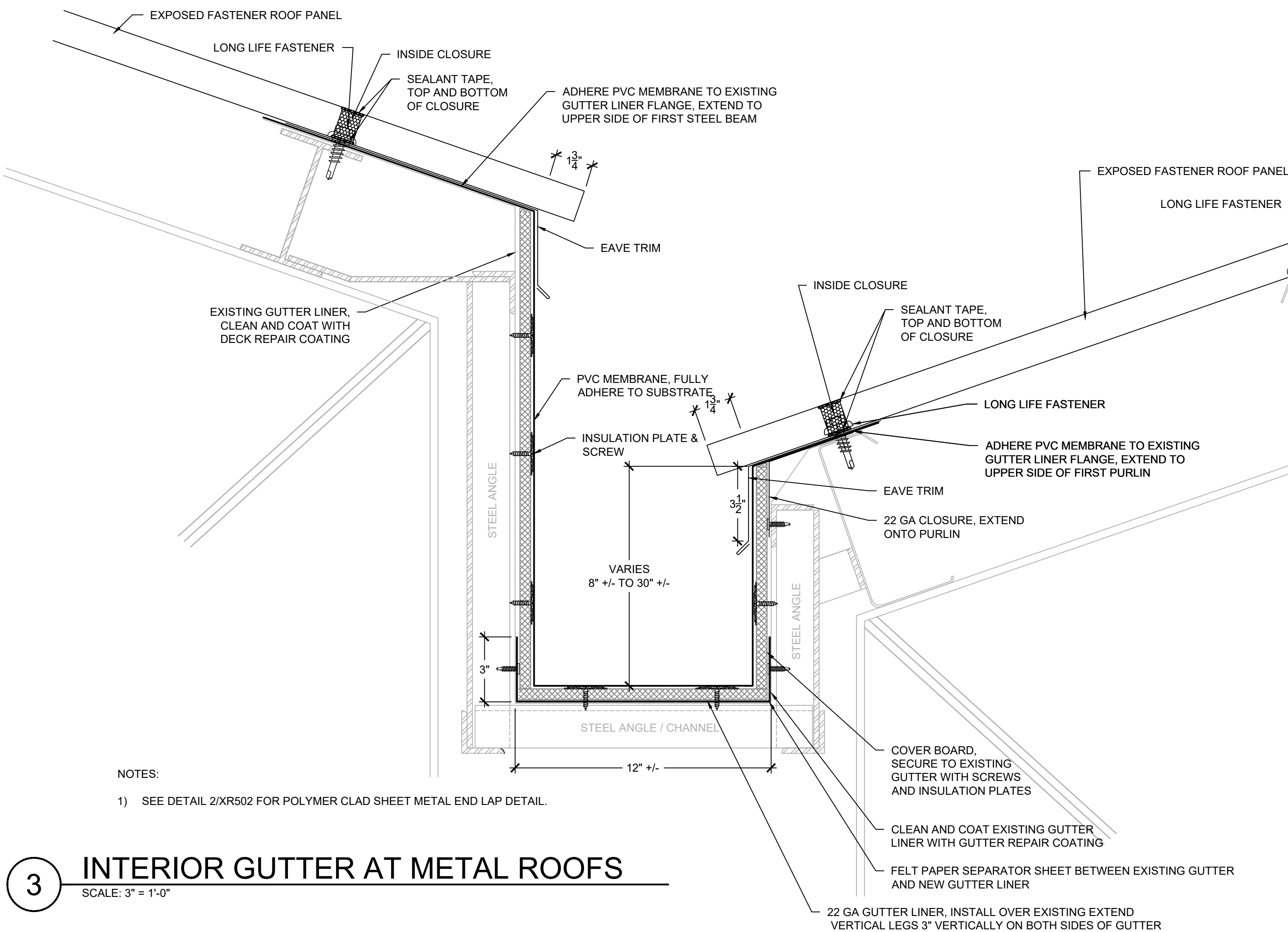
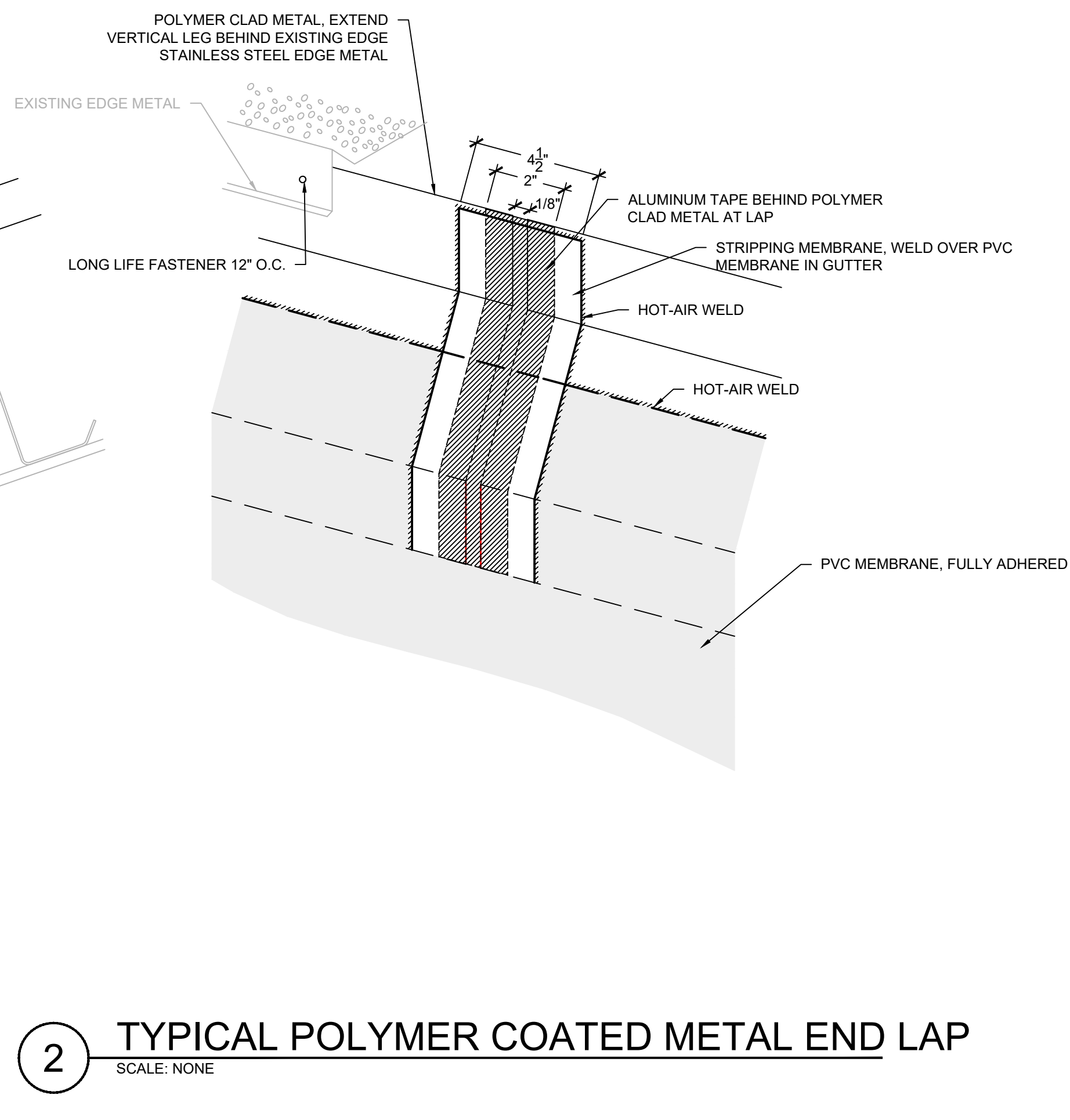
DETAILS

DRAWING

XR501

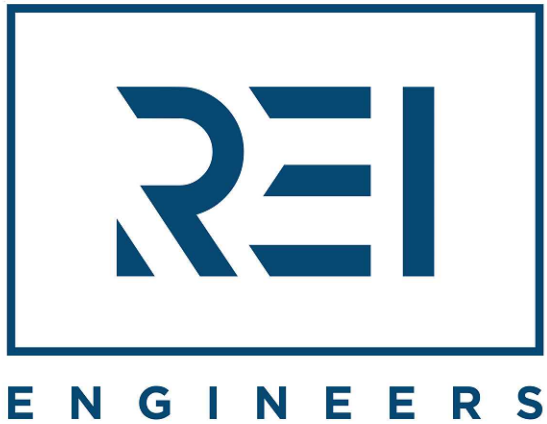


1 INTERIOR GUTTER AT BUILT-UP ROOF
SCALE: 3" = 1'-0"



3 INTERIOR GUTTER AT METAL ROOFS
SCALE: 3" = 1'-0"

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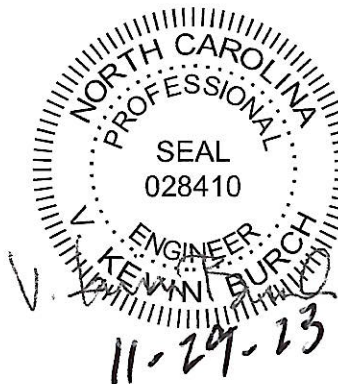
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SHEET TITLE

DETAILS

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XR502



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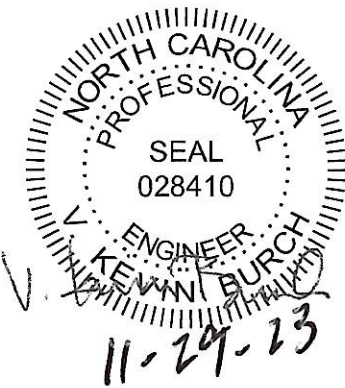
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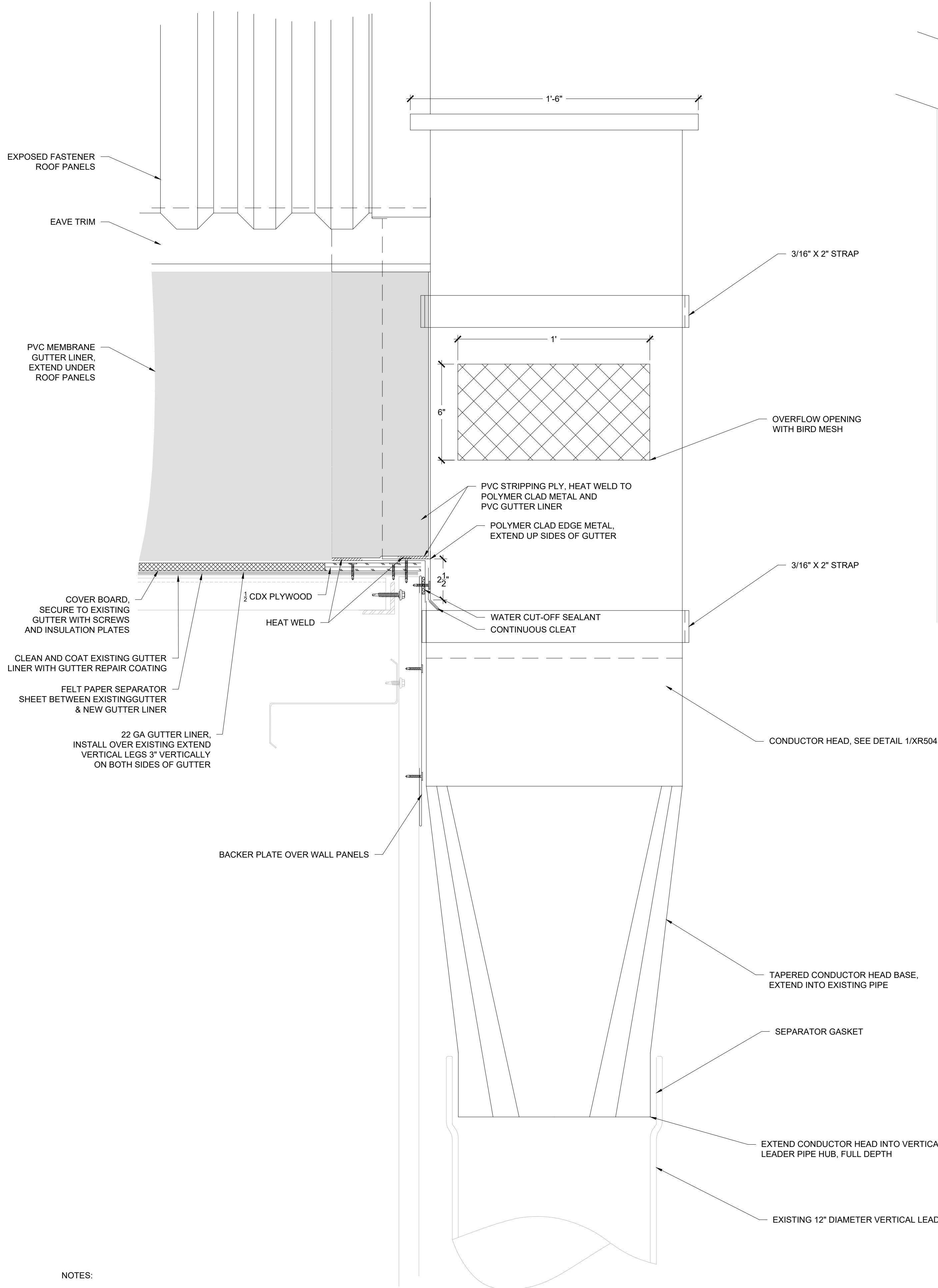
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DETAILS

DRAWING

XR503



1 SCUPPER AT CONDUCTOR HEAD

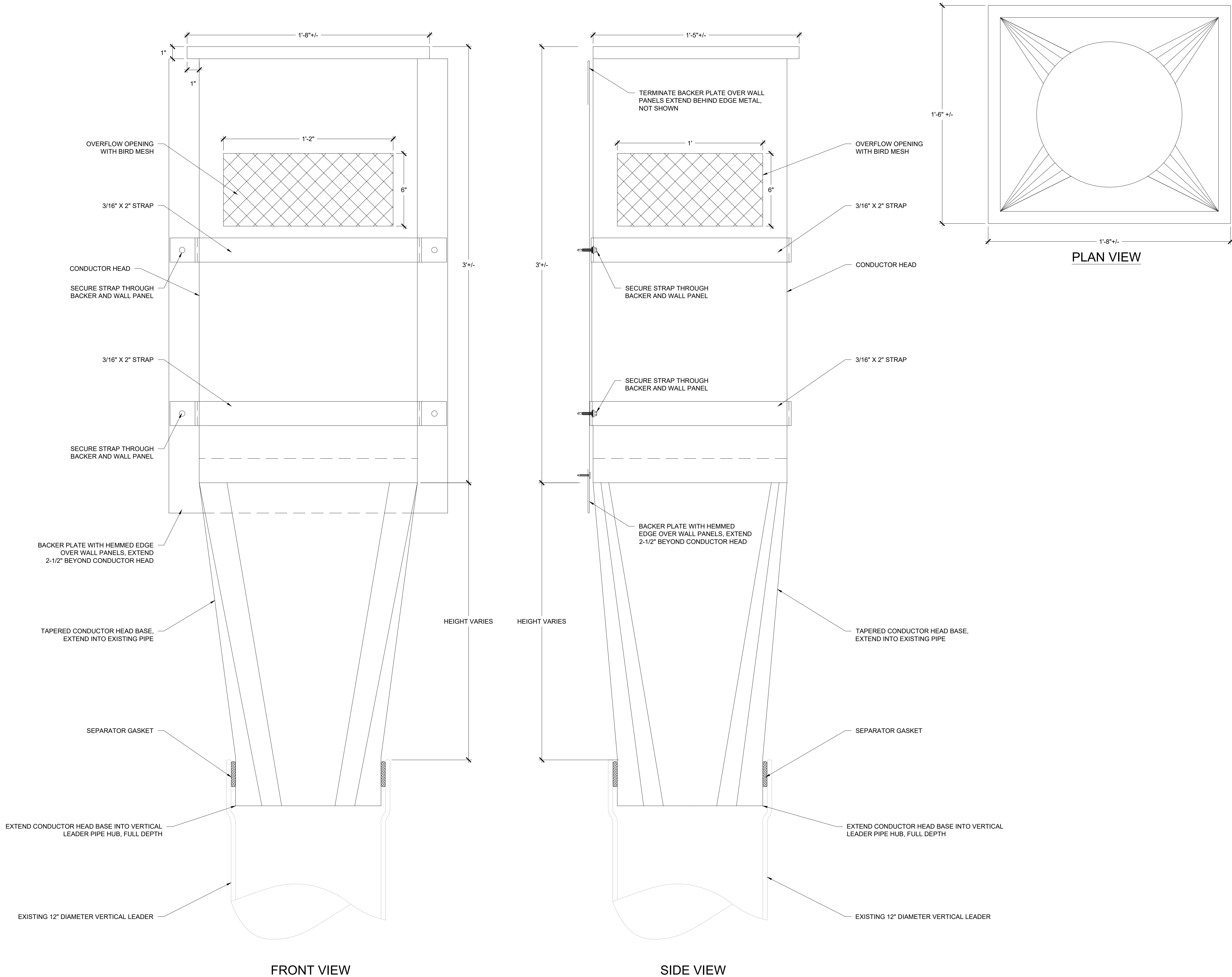
SCALE: 3" = 1'-0"

FRONT VIEW AT METAL ROOF TO
METAL ROOF
SCALE: NOT TO SCALE

HEIGHT VARIES

FRONT VIEW AT BRICK WALL
SCALE: NOT TO SCALE

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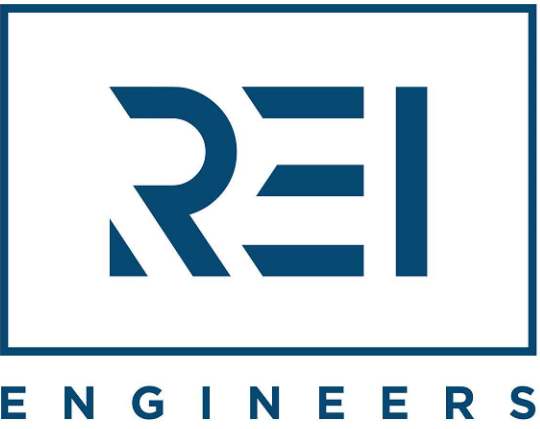


FRONT VIEW

SIDE VIEW

PLAN VIEW

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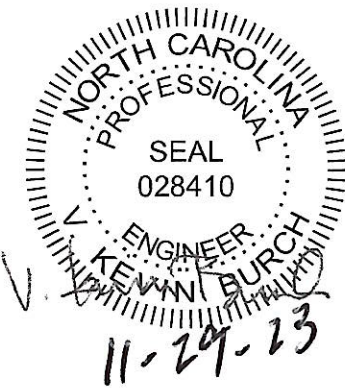
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NO.	DATE	DESCRIPTION
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SHEET TITLE

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