

**BIDDING / PROJECT MANUAL**  
**TO:**

**GATLINBURG SLUDGE THICKENING REROOF 2022**  
**1025 BANNER ROAD**  
**GATLINBURG, TENNESSEE**

**for: WASTEWATER DEPARTMENT**  
**of THE CITY OF GATLINBURG**  
**1230 PARKWAY EAST, GATLINBURG, TN**



**26 SEPTEMBER 2022**

**Architect/Roof Consultant: Doyle E Jones, RRC; 134 Court Avenue, Suite 207, Sevierville, TN**

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**CITY OF GATLINBURG INVITATION TO BID**

Notice is hereby given that the City of Gatlinburg is soliciting sealed Bid Proposals for:

**Gatlinburg Sludge Thickening Reroof 2022**  
**1025 Banner Road**  
**Gatlinburg, Tennessee**

Sealed Bid Proposals will be accepted until **2:30 p.m. Thursday, 20 October, 2022** at Gatlinburg City Hall, 1230 Parkway East, Gatlinburg, Tennessee, 37738, at which time and place they will be publicly opened and read aloud. Bids may only be mailed or hand delivered. Prior delivered Bids may be delivered to City of Gatlinburg, Finance Director, Robert Holt, City Hall Building. Bids shall be enclosed in the proper labeled envelopes. Bids received after the above scheduled closing time will not be considered nor returned.

The Work of approximately 1,620 Sq. Ft. Re-Roofing Area on One (1) building involves removal of existing PVC roofing, removal of all insulation, the installation of a vapor barrier, the installation of mechanically and adhesive attached insulation layers, the installation of an adhesively attached Single-Ply Co-Polymer Membrane Roofing System onto an existing low slope metal deck; includes installation of edge flashings, leaderheads and downspouts.

Drawings and Specifications (full and partial sets) and other Contract Documents shall be obtained by Bidders at the offices of Doyle E. Jones, Architect, RRC. Electronic file copies shall be available at no charge, and printed copies shall be available at the non-refundable cost of reproduction. Drawings and Contract Documents may also be examined at the Architect's Office.

Each Bid must be accompanied by a bidders bond in the sum of not less than five percent (5%) of the total amount of the Bid, including any additive alternatives. Cashiers and Certified Checks made payable to the City of Gatlinburg are also acceptable. The successful Bidder will be required to furnish a satisfactory performance bond and payment bond in the full amount, (100%), of the bid. All bonds shall be from a Surety Company registered in the Federal Register, Part II, Department of the Treasury, Fiscal Service, Companies holding Certificates of authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies; notice and authorized to transact business in the state of Tennessee. Attorneys-in-Fact who sign any bonds must file with each instrument a certified and effective dated copy of their power of attorney. The bid deposit shall be retained by the City of Gatlinburg for a period of ten (10) days after the award of the contract to insure that the bidder will execute the contract and provide the proper bonds.

All Bidders must be licensed in the specialty category of "Roofing and Sheet Metal" as required by the Contractors Licensing Act, most current edition, enacted by the General Assembly of the State of Tennessee, as currently amended.

All Bids submitted shall include an affidavit stating compliance with the TCA 50-9-113, Drug-Free Workplace Program

No Bidder will be permitted to withdraw his Bid within 30 days after the date of opening of Bids.

The City of Gatlinburg reserves the right to reject any or all Bid Proposals, to evaluate Bid Proposals and to negotiate additional terms. The City of Gatlinburg shall not be required to accept the lowest Bid Proposal, but may accept the Bid Proposal which, in its sole discretion, is in City's best interest, taking into account all factors and circumstances, including but not limited to the cost quoted in the proposal and the prior experience, qualifications and financial condition of the proposer.

The Construction Contract and the detailed Specifications contain the provisions required for the construction of the Project. No information obtained from any officer, agent, or employee of the City of Gatlinburg on any matters shall in any way effect the risk or obligation assumed or relieve him from fulfilling any of the conditions of the Contract.

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete within Bid stipulated time. Bidder must agree also to pay as liquidated damages the sum of Four Hundred (\$400.00) dollars for each consecutive calendar day that the contractor is in default after the stipulated date for completion of the work.

For questions concerning the Contract Documents, Bidders may contact City of Gatlinburg Finance Director, Att: Robert L Holt, at 865-436-1404 or Fax 865-436-6464 or [roberth@gatlinburgtn.gov](mailto:roberth@gatlinburgtn.gov). For information concerning the Technical Specifications, Bidders may contact Doyle Jones, Architect at 865-453-6311 or Fax 865-428-6376 or Email [arcjaguar@arcjones.net](mailto:arcjaguar@arcjones.net)

**End of Invitation to Bid**

SECTION 00100 - INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 The Work:

**Gatlinburg Sludge Thickening Reroof 2022**

1.2 Securing Bid Documents:

- A. Copies of the Bid Documents maybe obtained upon the conditions set forth in the Invitation to Bid.

1.3 Related Documents:

- A. Drawings and General Provisions of Contract, including General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this section.

1.4 Qualifications of Bidders:

A. Bidders shall be:

1. **Licensed Contractors** in the State of Tennessee, with speciality category of "Roofing and Sheet Metal Work".
2. **Certified installers** by Roofing Systems Company.
3. Have **5 years active experience**, principally engaged in and specializing in the installation of Single-Ply Membrane Roofing.
4. Compliant with the provisions of Tennessee Code Annotated Section 50-9-113, **Drug-Free Workplace Program**; See copy at Section 00105 TN Drug Free Workplace law herein and Section 00320 Bad Attachment Affidavit herein.
5. **Bond-able**: Able to secure Bid Bond and Performance & Payment Bond

1.5 Non-Discrimination:

- A. It is the policy of the City of Gatlinburg not to discriminate on the basis of race, color, national origin, age, sex, or disability in its hiring and employment practices, or in admission to, access to, or operation of its programs, services and activities. With regard to all aspects of this contract, the Bidder/Proposed Contractor certifies and warrants it will comply with this policy.

1.6 Bid Form:

A. In order to receive consideration, make bids in strict accordance with the following:

1. Make bids upon the forms provided (Section 00300) and **Two (2) Copies** of all forms shall be submitted, along with the required Attachments listed below. Photocopies of blank Bid form in the Bid Manual will be acceptable.
2. No telegraphic or fax bid or telegraphic or fax modification of a bid will be considered. Bids received after the time fixed for receiving them will not be considered. Late bids will be unopened.
3. Address bids to Owner and enclose in 9" x 12" sealed envelope bearing the completed Bid Envelope Cover - Section 00305 Page 1, herein. (Photocopies Acceptable of Form in Bid Manual)
4. All bids submitted must comply with TCA 62-6-119 concerning "Notice of Requirements Given in Invitation to Bidders", and each bid must have the following statement on the

outside of the envelope which contains the proposal. "All information required by TCA 62-6-119 is on the face of this bid envelope".

5. **Bid Attachments Required** to receive consideration are:
  - a. **Bid Bond** or Cashiers Check.
  - b. **Insurance Requirements Form Completed** (00312)  
*(Photocopies Acceptable of Form in Bid Manual)*
  - c. **TN Drug-Free Workplace Affidavit** of Compliance (Section 00320)
  - d. Potential Subcontractor Insurance Requirement submittal
  - e. **Manufacturer's Sample Warranty** (15 Year on New & 5 Year of Repair)
  - f. **Certified Installer Letter** from Manufacturer

## 1.7 Bonds

- A. Bid security in the amount stated in the invitation to bid must accompany each bid issued by Surety. The successful Bidder's security will be retained until he has signed the contract and has furnished the required Certificates of Insurance.
  1. Each bid shall be accompanied by a **Bidders Bond**, Executed by the bidder and a surety company authorized to transact business in the State of Tennessee, or a cashier's check or certified check on a duly authorized bank made payable to the Public Building Authority, in the sum of not less than five percent (5%) of the total amount of the bid. Said bond or check will pledge the Bidder to enter into a Contract with the Owner on the terms stated in the Bid and will furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the bidder refuse to enter into such Contract or fail to furnish such bonds the amount of the Bid Security shall be forfeited to the Owner as liquidated damages, not as a penalty. Said bond or check will be returned to the unsuccessful bidder as soon as the contract has been awarded, and the successful bidder as soon as the necessary bonds have been furnished and the contract has been executed. Attorney-in-Fact who signs any bonds must file with each instrument a certified and effective dated copy of their power of attorney.
- B. The Owner reserves the right to retain the security of all Bidders until the successful Bidder enters into the Contract or until Thirty (30) days after bid opening, whichever is sooner.
  1. Other bid security will be returned as soon as practical. If any Bidder refuses to enter into a Contract, the Owner may retain his bid security as liquidated damages but not as a penalty.
- C. Prior to signing the Contract, the Owner will require the successful Bidder to secure and post a **Labor and Materials Payment Bond and a Performance Bond**, each in the amount of 100% of the Contract Sum on each of the forms provided herein the project manual or its AIA approved equal. Such bonds shall be issued by surety acceptable to approved equal. Such bonds shall be issued by surety acceptable to the Owner. Costs of such bonds will be inclusive to the bid amount.

## 1.8 Construction Contract Alternates:

- A. (None in this contract)

## 1.9 Contingency Allowance:

- A. Bidders shall include in their Bid. a Contract Contingency Allowance, of Six Thousand Dollars (**\$6,000.00**), for unforeseen conditions, to be administered by the Architect subject to the Owner's Approval.

## 1.10 Examination of Documents and Site Work:

- A. Before submitting a bid, each Bidder shall examine the Drawings carefully, shall read the specifications and all other proposed Contract Documents, and shall visit the Site of the Work. Each Bidder shall fully inform himself prior to bidding as to existing conditions and limitations

under which the Work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a Bidder because of lack of such examination or knowledge. **The submission of a bid will be considered as conclusive evidence that the Bidder has determined for himself the difficulties that such conditions will impose upon the performance of the Work and the effect of such conditions on the quantity of Work required. No adjustment to the contract sum will be made for conditions which can be determined by examining site and documents, and that all quantities of material necessary to Reroof are included in the Bid amount as derived from Bidder's own field measurements.**

**B. Inspection of Existing Roofs (Test Cuts):**

1. **Inspection of the roof** is allowed at any time. Test cuts have been made and the Architect's documents reflect the existing roofing and its layers. No new test cuts will be allowed.
2. Should the successful bidder/contractor encounter conditions different than prescribed; adjustments will be required by Change Order procedure.

**1.11 Existing Renovation Work on Site:**

- A.** The existing Wastewater plant is currently operational and also under renovation. There is ongoing activity on site, and coordination between that renovation contractor and the successful bidder of this reroofing project will be required. Particularly, vehicular access of material delivery vehicles, employee parking and overall "get-along" interaction between all parties is required. Such potential issues will be resolved at the pre-construction meeting between all parties.

**1.12 Tree Removal:**

- A.** Trees currently are adjacent and overhang this building. The Owner is in the process of cutting back adjacent trees and limbs and it can be assumed this work will be done prior to beginning on site work.

**1.13 Interpretation of Plans and Specifications:**

- A.** No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any Bidder orally. Each request for such interpretation should be in writing addressed to the Architect. To be given consideration it must be received at least **Five (5) days** prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed by certified mail to all prospective Bidders, not later than **Two (2) days** prior to the date fixed for the opening of the bids. All addenda so issued shall become part of the Contract Documents.
1. Addenda will be Emailed, to each person or firm known to the Architect as having received the Bidding Documents. Any unknown to Architect, Bidder relying on plan room communication, does so at his sole discretion.
- B.** The intent of these specifications is to set forth and convey to prospective Bidders the general style, type, character and quality of the article desired, and not to designate or imply a certain brand or make. However, any deviation from this specification shall be clearly noted along with sufficient information to allow the Owner and the Architect to evaluate the exceptions. Brand names and/or stock numbers are used to describe quality standard.

**1.14 Insurance:**

- A.** The Successful Bidder (Contractor) shall furnish a Certificate Of Insurance (AIA Form G705) with limits as in Section 00312 - Insurance Requirements.

- B. Any and all proposed sub-contractors shall also furnish a Certificate Of Insurance (AIA Form G705) with limits as in Section 00312 - Insurance Requirements.

**1.15 Warranty:**

- A. Upon Completion of the new re-roofing Work the Contractor shall furnish a Roof Systems Company (Manufacturer) 20 Year standard No-Dollar Limit Watertight Warranty. **Bid submittal attachment of manufacturer's warranty is required.**

**1.16 Non-Collusion or Fraud:**

- A. Bidders, by submitting a signed bid, certify that the accompanying bid is not the result of, or affected by, any unlawful act of collusion with any other person or company who engages in the same line of business or commerce, or any other fraudulent act punishable under Tennessee or United States law.

**1.17 Modification or Withdrawal of Bids:**

- A. A **Modification** to a bid may be made as a monetary "add" or "deduct" only from the enclosed Bid Amount and shall be prominently marked on the face of the sealed Bid Envelope and shall be initialed by a representative of the Bidder.
- B. A **Bidder, prior to Bid Opening Time, may withdraw** his bid at any time, either personally or by written request.
- C. A **request to withdraw bid after Bid Opening**, due to mistake must be in writing to the Public Building Authority, delivered in person or postmarked certified or registered mail not later than twenty-four hours after the time fixed for receipt and opening of bids. Request shall acknowledge that bidder refuses to enter into contract based on bid. Request shall acknowledge that bidder intends to submit original work papers, documents, and materials used in preparation of the bid, that document the mistake, delivered in person or postmarked certified or registered mail with Three working days following date of bid opening .
  - 1. Bidder making such request will be removed from consideration for award of contract; and, the Owner will consider whether forfeiture of Bid Security should be waived.
- D. No Bidder may withdraw his bid for a period of Thirty (30) calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner, during this period.

**1.18 Award or Rejection of Bids:**

- A. Intent: The City of Gatlinburg and the Architect intend to meet soon following the Bid Opening to review the Bids, and subject to additional information being deemed necessary to evaluate the Bidder or Bidders, plan to award the Contract as soon as possible.
- B. The City of Gatlinburg reserves the right to reject any or all Bid Proposals, to evaluate Bid Proposals and to negotiate additional terms. Although evaluation of received Bids will consider lowest cost, the City has no obligation to make an award based on lowest cost alone. Lowest cost will be considered among a number of factors, including, but not limited to, proposed time of completion, integrity, performance, licensing, certification, specialized experience, legal compliance, financial solvency, industry reputation, technical capability and prior experience with the City and/or the Architect. The City will also consider responsiveness to the Instructions to Bidders and compliance therewith. The City has no obligation to make an award and reserves the right to waive any non-material bid defects, reject any or all bids, and /or terminate the selection process at any time.
  - 1. The Bidder, if requested, shall provide the Owner with a Financial Statement, Contractor's Qualification Statement, AIA Document A305, and other information that may be required to determine the financial qualifications.



2. The City shall have the right to negotiate the final Contract Sum with the apparent low bidder if the bids received exceed the funds available.
- C. The Owner reserves the right to reject any potential counterproposal or qualified bids.

**1.19 Post Bid Submittals:**

- A. Bidders to whom award of a Contract is under consideration shall submit to the Architect within Two (2) working days following date of bid opening, the name and resume of the superintendent who will manage the project should the Bidder be awarded the Contract.
- B. Bidders to whom award of a Contract is under consideration shall submit to the Architect within Two (2) working days following date of bid opening, a completed Contractor's Construction Schedule specified in subparagraph 3.10.1 of the General Conditions.

**1.20 Execution of Agreement:**

- A. The form of Agreement which the successful Bidder will be required to execute is the Standard Form of AIA Agreement Between Owner and Contractor.
- B. The Bidder to whom the Contract is awarded shall, within Five (5) calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Owner.
- C. At or prior to delivery of the signed Agreement, the Bidder to whom the Contract is awarded shall deliver to the Owner those Certificates of Insurance required by the Contract Documents and such Labor and Materials Payment Bonds and Performance Bond as are required by the Owner.
- D. Bonds and Certificates of Insurance shall be approved by the Owner before the successful Bidder may proceed with the work. Failure or refusal to provide Bonds or Certificates of Insurance in a form satisfactory to the Owner shall subject the successful Bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.
  1. The successful bidder will be required to furnish a satisfactory Performance Bond and Payment Bond each in the full amount of the bid. Such bond shall be from a Surety Company authorized to transact business in the State of Tennessee and Company shall be registered in Federal Register, Part II, Department of the Treasury, Fiscal Service Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies: Notice. Attorneys-in-Fact who sign any bonds must file with each instrument a certified and effective dated copy of their power of attorney.

**1.21 Notice to Proceed:**

- A. A Notice to Proceed shall be issued by the Owner or Architect.
- B. Construction shall commence on a date to be specified in the "Notice to Proceed" to the Contractor and shall be completed on or before the completion date specified within the Bid Proposal and in the Contract Documents as time is of the essence in the performance of the contract for construction.
- C. Upon receipt of Notice to Proceed, the Contractor will prosecute the work regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified.

**1.22 Construction Time and Liquidated Damages:**

- A. The Agreement will include a stipulation that the Work be completed by a certain number of calendar days as Bidder stipulated in the Bid Proposal.

- B. Contractor understands and will agree that if Substantial Completion is not achieved within a Bid stipulated number of days from the date of commencement, or as such date or duration may be amended by subsequent Change Order, Owner will suffer damages which are difficult to determine and accurately specify. Contractor agrees that if the date or duration set forth above in this paragraph is not attained, Contractor shall pay Owner, on the Owner's demand and election, **\$400.00/day as liquidated damages** and not as a penalty for each day that Substantial Completion extends beyond such date or duration. The liquidated damages provided herein, if elected by the Owner, shall be in lieu of all liability for extra costs, losses, expenses, claims, penalties, and other damages incurred by Owner which are occasioned by delay in Contractor's performance or in achieving Substantial Completion within the prescribed time frame. Notwithstanding the foregoing, nothing shall prohibit the Owner from electing, in its sole discretion, to forego enforcement of any liquidated damages identified herein, and claim and/or recover from the Contractor, or any other responsible party, actual extra costs, losses, expenses, claims, penalties, and other damages incurred by Owner which are occasioned by delay in Contractor's performance or in achieving Substantial Completion within the prescribed time frame. To the extent all or part of this article is deemed unenforceable, the Owner and the Contractor agree that nothing in this article shall prevent the Owner from recovering any actual damages which the owner may be entitled under applicable law.

**1.23 Progress Payments & Retainage:**

- A. See Section 01008 - Supplementary Conditions.

**1.24 Substitutions:**

- A. Where an article or material is specified by proprietary or manufacturer's name or by catalog reference, the Contract shall be based on furnishing the item or material named or its approved substitute as determined by the Architect. If two or more manufacturers or producers of items are named, either of any such items may be furnished at the Contractor's option.
- B. The Contractor may, at his option, offer substitute products that he proposes to use in said installation not later than three (3) days before bid opening. Acceptance of substitute products shall rest with the Architect and shall be given in writing by addenda not later than two(2) days prior to bid date. Where the architectural evaluation of substitute products is required to obtain the Owner's approval, the Contractor shall pay for said evaluation. The Contractor shall assume full responsibility for substitute products with respect to contract specifications requirements.

**1.25 Applications for Payment:**

- A. The Contractor's Application for Payment shall be made on forms "AIA G702" and "AIA G703" as published by the American Institute of Architects.

**1.26 Contract Termination:**

- A. See Sample Agreement AIA 101 for Termination Provisions.

**1.27 Restrictive or Ambiguous Specifications:**

- A. It is the responsibility of the prospective bidder to review the entire invitation for bids packet and to notify the Architect, if the specifications are formulated in a manner that would unnecessarily restrict competition. Any such protest or question regarding the specifications or bidding procedures must be received by the Architect not less than seventy-two (72) hours prior to the time set for bid opening. These requirements also apply to the specifications that are ambiguous.

**1.28 Scope of Specifications:**

- A.** Mentioned herein or indicated on the drawings of articles, materials, operations or methods require that the Contractor shall:
  - 1. Provide each item mentioned or indicated, or quality subject to qualifications noted.
  - 2. Perform each operation prescribed according to conditions stated.
  - 3. Provide, therefore, all necessary labor, equipment and incidentals.
- B.** Use of the word "all" has been generally omitted, but coverage in all cases is intended to be complete, except where partial coverage is specifically indicated. In all cases where the item is referred to in the singular number, it is intended that such reference shall apply to as many such items as are required to complete the work.
- C.** Use of the word "shall" has generally been omitted, but all requirements set forth are mandatory except where otherwise qualified.

**1.29 Specification Explanation:**

- A.** For the convenience of reference and to facilitate the letting of contracts and subcontracts, these specifications are separated into titled Divisions. Such separations shall not, however, operate to make the Architect an arbitrator to establish limits to the contracts between the Contractor and subcontractors.

**1.30 Compliance with Applicable Safety Standard:**

- A.** The Contractor shall comply with all applicable State and Federal laws and safety standards relating to construction including, but not limited to the Federal or State Occupational Safety and Health Act, and all rules and administrative regulations promulgated in connection therewith, and shall maintain such records as are required by State and Federal laws relating to construction work, and the safety and health standards regarding such work places.
- B.** The Contractor will be fully responsible for the processing of job safety and will designate a qualified safety inspector in his employ.

**1.31 Conditions of Surfaces:**

- A.** It shall be the responsibility of the Contractor to carefully inspect and examine surfaces or areas prepared to receive his work. Should he consider such surfaces or areas not proper, or satisfactory for the installation or application of his work, he shall notify the Architect in writing. Should he proceed before proper corrections have been made, it shall be at his own risk and any subsequent corrections that may be ordered or required shall be at his expense.

**1.32 Protection of Existing Structures:**

- A.** The Contractor shall protect the existing structures in the area from damage caused by his work or workmen, and be responsible for any damage thus caused.
- B.** The Contractor shall be responsible to replace to its original condition all areas disturbed by construction.

**1.33 Compliance with Standard and Industry Specifications:**

- A.** Any materials or operation specified by reference to the published specifications of a manufacturer, by the American Society for Testing Materials (ASTM), the American National Standards Institute (ANSI), the Aluminum Association (AA), local or state Building Codes or other published standards, including the Occupational Safety and Health Act and regulations promulgated pursuant to such Act, shall comply with the requirements of the standard or standards as listed. In case of conflict between the project specifications and the referenced standards, the one having the more stringent requirements shall govern.

**1.34 Manufacturer's Directions:**

- A.** All manufactured articles, materials, and equipment shall be applied, installed, covered, erected, used, cleaned, and conditioned as directed by the manufacturer's printed instructions unless herein specified to the contrary.

**1.35 Codes:**

- A.** Contractor shall conform to applicable City, County, State, and National Codes, current edition, including, but not limited to the following:
  1. NFPA Edition adopted by the State having jurisdiction and the NFPA Life Safety Code
  2. ASTM Code
  3. National Board of Fire Underwriters Code
  4. International Building Code (2018 edition)
  5. Occupational Safety and Health Act (OSHA) and/or a State Occupational Safety and Health Act, whichever is in force.
  6. Asbestos School Hazard Abatement Reauthorization Act (ASHARA) extending asbestos requirements to non school buildings.

**1.36 Toilet Facilities:**

- A.** The Contractor shall be required to provide on site temporary toilet facilities for his employees.

**1.37 Smoking:**

- A.** No smoking is allowed (**period**) within 100 feet of Digester building (due to methane gas capture function).
- B.** Cigarette butts from smoking by roofing personnel shall be contained by roofing company and disposed of properly off site. Roofer to provide his own butt disposal containers on site.

**1.38 Building Permits:**

- A.** The Contractor shall not be required to secure a Building Permit from City of Gatlinburg.

**1.39 Tennessee Drug-Free Workplace Law:**

- A.** A copy of the Drug-Free Workplace Law is attached as a supplement to this section titled as Section 00105.

End of Section - 00100

TN ST S 50-9-113  
T.C.A. § 50-9-113

**TENNESSEE CODE ANNOTATED  
TITLE 50 EMPLOYER AND EMPLOYEE  
CHAPTER 9 DRUG-FREE WORKPLACE PROGRAMS**

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Current through End of 2000 Reg. Sess.

50-9-113 State and local government construction contracts .

(a) Each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services or who is awarded a contract to provide construction services or who provides construction services to the state or local government shall submit an affidavit stating that such employer has a drug-free workplace program that complies with this chapter, in effect at the time of such submission of a bid at least to the extent required of governmental entities. Any private employer that certifies compliance with the drugfree workplace program, only to the extent required by this section, shall not receive any reduction in workers' compensation premiums and shall not be entitled to any other benefit provided by compliance with the drug-free workplace program set forth in this chapter. Nothing in this section shall be construed to reduce or diminish the rights or privileges of any private employer who has a drug-free workplace program that fully complies with this chapter. For purposes of compliance with this section, any private employer shall obtain a certificate of compliance with the applicable portions of the Drug-free Workplace Act from the department of labor and workforce development. No local government or state governmental entity shall enter into any contract or award a contract for construction services with an employer who does not comply with the provisions of this section.

(b) For the purposes of this section, "employer" does not include any utility or unit of local government. "Employer" includes any private company and/or corporation.

© If it is determined that an employer subject to the provisions of this section has entered into a contract with a local government or state agency and such employer does not have a drug-free workplace pursuant to this section, such employer shall be prohibited from entering into another contract with any local government or state agency until such employer can prove compliance with the drug-free workplace program pursuant to this section. If the same employer again contracts with any local government or state agency and does not have a drug-free workplace program pursuant to this section, then such employer shall be prohibited from entering into another contract with any local government or state agency for not less than three (3) months from the date such violation was discovered and verified and shall be prohibited from entering into another contract until such employer complies with the drug-free workplace program pursuant to this section. If the same employer for a third time contracts with any local government or state agency and does not have a drug-free workplace program pursuant to this section, then such employer shall be prohibited from entering into another contract with any local government or state agency for not less than one (1) year from the date such violation was discovered and verified and shall be prohibited from entering into another contract until such employer complies with the drug-free workplace program pursuant to this section.

(d) A written affidavit by the principal officer of a covered employer provided to a local government at the time such bid or contract is submitted stating that the employer is in compliance with this section shall absolve the local government of all further responsibility under this section and any liability arising from the employer's compliance or failure of compliance with the provisions of this section.

[Acts 2000, ch. 918, §§ 1, 2.]

Effective Dates. Acts 2000, ch. 918, § 3. January 1, 2001.

T.C.A. § 50-9-113  
TN ST § 50-9-113

End of Section

Note: All Bid sheets & forms to be submitted in duplicate.

To: **City of Gatlinburg: Wastewater Department**  
**Mr. Robert L Holt, Finance Director**  
City Hall Building, 1230 Parkway E., P.O. Box 5  
Gatlinburg, Tennessee 37738

From: \_\_\_\_\_ Name if Bidder  
\_\_\_\_\_ Address of Bidder  
\_\_\_\_\_  
( )- \_\_\_\_\_ Voice ( )- \_\_\_\_\_ Fax Phones

1.1 The undersigned, having examined the proposed Contract Documents titled:

**Gatlinburg Sludge Thickening ReRoof 2022**

and having visited the site and examined the conditions affecting the work, hereby propose and agree to furnish all labor, material, equipment and to perform operations necessary to complete the work as required by said proposed Contract Documents for the **stipulated sum of:**

\_\_\_\_\_  
\_\_\_\_\_ Dollars(\$ \_\_\_\_\_)

1.2 The Undersigned acknowledges a **Contract Contingency Allowance** within his Bid Amount at a cost of **\$ 6,000.00** for unforeseen conditions, to be administered by the Architect, subject to Owners Approval.

1.3 The undersigned offers the following amounts as Unit Price Repair allowances. The cost figures below shall be the Contractor's "cubic board foot" or other per unit cost to repair the various details.

- A. Replace deteriorated Metal Roof Deck (square foot quantity) \$ \_\_\_\_\_/SF
- B. Replace deteriorated wood plates or blocking (board Foot quantity) \$ \_\_\_\_\_/BF

1.4 The Undersigned understands and agrees to comply with and be bound by the **Instructions to Bidders** issued for this Work.

1.5 The Undersigned acknowledges **receipt of Addenda** number and date:

\_\_\_\_\_ Dated: \_\_\_\_\_  
\_\_\_\_\_ Dated: \_\_\_\_\_

1.6 The Undersigned stipulates a **Time of Completion** of \_\_\_\_\_  
\_\_\_\_\_ (\_\_\_\_\_) days following Notice to Proceed, the Owner acknowledging that should any unforeseen problems arise, additional time may necessary, and appropriate time extension will be granted.

1.7 **Bid Security** in the amount of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_), in the form  
of \_\_\_\_\_ is submitted herewith in accordance with the Invitation to Bid.  
*Cashier's Check, Certified Check or Bid Bond*

- 1.8 The Undersigned **attaches** to this BID the following Forms:
  - A. **Bid Bond** (AIA-A310 or Equivalent, or Letter of Credit)
  - B. **Insurance Submittal** (00312)
  - C. **Tennessee Drug-Free Affidavit** (00320)
  - D. **Insurance Submittal of any proposed sub-contractor.**
  - E. **Manufacturer’s Sample Warranties** (20 Year NDL)
  - F. Contractor’s **Certified Installer Letter** from Manufacturer
  
- 1.9 The Undersigned agrees to **hold and honor his bid for Thirty (30) days**. The Undersigned agrees, if written notice of the acceptance of this bid is mailed, telegraphed or delivered to the undersigned within Thirty (30) days after the opening thereof, or at any time thereafter before this bid is withdrawn, the undersigned agrees to execute and deliver a contract in the prescribed form and furnish the required bond with Five (5) days after the contract is presented to him, for signature.
  
- 1.10 The Undersigned agrees to **commence work** under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the Project by the date of completion listed above. Bidder further agrees to pay as **Liquidated Damages**, the sum of **\$400.00** for each consecutive calendar day thereafter as provided in the General Conditions.
  
- 1.11 The Undersigned certifies that this **Bid is not the result of, or affected by, any unlawful act of collusion** with any other person or company engaged in the same line of business or commerce, or any other fraudulent act punishable under Tennessee or United States laws.
  
- 1.12 The Undersigned certifies that his/her firm does not discriminate on the basis of race, color, national origin, age, sex, or disability in its hiring and employment practices. With regard to all aspects of this contract, the Bidder/Proposed Contractor certifies and warrants it will continue to comply with this policy.
  
- 1.13 The Undersigned, acknowledges that the City of Gatlinburg reserves the right, in case of Bidder (Contractor) **default**, to procure the articles or services from other sources and hold the defaulting Bidder (Contractor) responsible for any excess costs occasioned thereby.
  
- 1.14 The Undersigned, in submitting this bid, understands that the City of Gatlinburg reserves the right to reject any or all Bid Proposals, to evaluate Bid Proposals and to negotiate additional terms. The City of Gatlinburg shall not be required to accept the lowest Bid Proposal, but may accept the Bid Proposal which, in its sole discretion, is in the City’s best interest, taking into account all factors and circumstances, including but not limited to the cost quoted in the proposal and the prior experience, qualifications and financial condition of the proposer.

Corp. Seal (affixed below)

Bidder: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_ Title

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

\_\_\_\_\_

TN. Lic. No.: \_\_\_\_\_ Lic. Class: \_\_\_\_\_

Bid dated this \_\_\_\_\_ Day of \_\_\_\_\_, 19\_\_\_\_

End of Section 00300

*(THIS FORM MUST BE ATTACHED TO THE OUTSIDE OF THE BID ENVELOPE. NO BID WILL BE CONSIDERED IF THIS FORM IS INCOMPLETE OR NOT ATTACHED TO THE OUTSIDE OF THE BID ENVELOPE.)*

## Bid for: Gatlinburg Sludge Thickening ReRoof 2022

To Open At \_\_\_\_\_ 2022

**PART I - ALL BIDDERS MUST COMPLETE**

<b>TO:</b>	<b>THE CITY OF GATLINBURG</b>
<b>DATE:</b> →	
<b>TIME:</b> →	
<b>LOCATION:</b>	<b>City Hall, City of Gatlinburg 1230 Parkway East, Suite 2 - P.O. Box 5 Gatlinburg, Tennessee 37738</b>
<b>NAME OF BIDDER:</b> →	
<b>ADDRESS OF BIDDER:</b> →	
<b>LICENSE NO: (IF BIDDER IS LICENSED IN MORE THAN ONE CLASSIFICATION, INCLUDE THE LICENSE NO., LICENSE CLASSIFICATION AND EXPIRATION DATE FOR ALL RELEVANT CLASSIFICATIONS).</b>	
<b>LICENSE CLASSIFICATION OF BIDDER:</b> →	
<b>EXPIRATION DATE:</b> →	
<b>MONETARY LIMITS:</b> →	

**PART 2**

**IF BIDDING INVOLVES: (1) ELECTRICAL WORK, (2) PLUMBING WORK, OR (3) HEATING, VENTILATION OR AIR CONDITIONING WORK, THE BIDDER MUST COMPLETE PART 2. IF NOT, ENTER NONE IN THE SPACE FOR ITEM (E) BELOW.**

<b>(A) NAME HOLDING ELECTRICAL LICENSE:</b>	<b>(A) NAME HOLDING PLUMBING LICENSE:</b>	<b>(A) NAME HOLDING HVAC LICENSE:</b>
<b>(B) LICENSE NUMBER OF CONTRACTOR HOLDING ELECTRICAL LICENSE:</b>	<b>(B) LICENSE NUMBER OF CONTRACTOR HOLDING PLUMBING LICENSE:</b>	<b>(B) LICENSE NUMBER OF CONTRACTOR HOLDING HVAC LICENSE:</b>
<b>© LICENSE CLASSIFICATION AND LIMITS:</b>	<b>© LICENSE CLASSIFICATION AND LIMITS:</b>	<b>© LICENSE CLASSIFICATION AND LIMITS:</b>
<b>(D) EXPIRATION DATE OF ELECTRICAL LICENSE:</b>	<b>(D) EXPIRATION DATE OF PLUMBING LICENSE:</b>	<b>(D) EXPIRATION DATE OF HVAC LICENSE:</b>
<b>(E)</b>	<b>(E)</b>	<b>(E)</b>

**All information required by TCA 62-6-119 is on this face of this bid envelope.**

Any Bidder Proposed Sub-Contractor shall be listed below with supplemental Sub-Contractor's Insurance Submittal. Use separate paper and enclose within Bid Envelope if needed.

\_\_\_\_\_  
Bidders Initials



**INSURANCE REQUIREMENTS - Section 00312 - PAGE 1**  
**Gatlinburg Sludge Thickening ReRoof 2022**

**INSURANCE CHECKLIST**

THE CERTIFICATE OF INSURANCE MUST SHOW ALL COVERAGES & ENDORSEMENTS WITH "YES" AND ITEMS 26 TO 30.

Required	No:	Type Of Coverage:	Coverage Limits:
YES	1	WORKERS COMPENSATION	STATUTORY LIMITS OF TENNESSEE
YES	2	EMPLOYERS LIABILITY	\$100,000 PER ACCIDENT \$100,000 PER DISEASE \$500,000 DISEASE POLICY LIMIT
YES	3	COMMERCIAL GENERAL LIABILITY	\$1,000,000 CSL BI/PD EACH OCCURRENCE \$1,000,000 ANNUAL AGGREGATE
YES	4	PREMISES/OPERATION	\$500,000 CSL BI/PD EACH OCCURRENCE \$1,000,000 ANNUAL AGGREGATE
YES	5	AUTOMOBILE LIABILITY	\$1,000,000 BI/PD EACH OCCURRENCE UNINSURED MOTORIST
YES	6	OWNED/HIRED/NON-OWNED	\$1,000,000 BI/PD EACH OCCURRENCE UNINSURED VEHICLES OR MOTORIST
YES	7	INDEPENDENT CONTRACTOR	\$1,000,000 CSL BI/PD EACH OCCURRENCE \$1,000,000 ANNUAL AGGREGATE
YES	8	PRODUCT LIABILITY	\$500,000 CSL BI/PD EACH OCCURRENCE \$1,000,000 ANNUAL AGGREGATE
YES	9	COMPLETED OPERATIONS	\$500,000 CSL BI/PD EACH OCCURRENCE \$1,000,000 ANNUAL AGGREGATE
YES	10	CONTRACTUAL LIABILITY (MUST BE SHOWN ON CERTIFICATE)	\$1,000,000 CSL BI/PD EACH OCCURRENCE \$1,000,000 ANNUAL AGGREGATE
YES	11	PERSONAL AND ADVERTISING INJURY LIABILITY	\$1,000,000 EACH OFFENSE \$1,000,000 ANNUAL AGGREGATE
YES	12	UMBRELLA LIABILITY COVERAGE	\$1,000,000 <i>(Totaling 2Mil total)</i>
NO	13	PER PROJECT AGGREGATE ENDORSEMENT	
NO NO NO	14	PROFESSIONAL LIABILITY: ARCHITECTS & ENGINEERS ASBESTOS & REMOVAL LIABILITY MEDICAL MALPRACTICE	
NO	15	MISCELLANEOUS E & O	
NO	16	MOTOR CARRIER ACT ENDORSEMENT	
NO	17	MOTOR CARGO INSURANCE	
NO	18	GARAGE LIABILITY	
NO	19	GARAGE KEEPER'S LIABILITY	
NO	20	INLAND MARINE BAILEE'S INSURANCE	
NO	21	MOVING AND RIGGING FLOATER ENDORSEMENT TO CGL.	
NO	22	DISHONESTY BOND	
YES	23	BUILDERS RISK or INSTALLATION FLOATER	
NO	24	XCU COVERAGE	
NO	25	USL&H	

26. CARRIER RATING SHALL BE BEST'S RATING OF A-VII OR BETTER OR ITS EQUIVALENT.

27. NOTICE OF CANCELLATION, NON-RENEWABLE OR MATERIAL CHANGES IN COVERAGE SHALL BE PROVIDED TO: CITY OF GATLINBURG AT LEAST 60 DAYS PRIOR TO ACTION. THE WORDS "ENDEAVOR TO" AND "BUT FAILURE TO" (TO END OF SENTENCE) ARE TO BE ELIMINATED FROM THE NOTICE OF CANCELLATION PROVISION ON STANDARD ACCORD CERTIFICATES.

28. The City of Gatlinburg and the Architect SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES except Workers Compensation and Auto.

29. CERTIFICATE OF INSURANCE SHALL SHOW THE BID TITLE.

Continued

30. OTHER INSURANCE REQUIRED \_\_\_\_\_.

31. The CONTRACTOR AGREES TO SAVE, DEFEND, KEEP HARMLESS AND INDEMNIFY The City of Gatlinburg AND ALL OF ITS AGENTS AND EMPLOYEES (COLLECTIVELY THE CITY) FROM AND AGAINST ANY AND ALL CLAIMS, LOSS, DAMAGE, INJURY, COST (INCLUDING COURT COSTS AND ATTORNEY'S FEES), CHARGES, LIABILITY OR EXPOSURE, HOWEVER CAUSED, RESULTING FROM, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE CONTRACTOR'S PERFORMANCE OF THE AGREEMENT OR ITS OBLIGATIONS UNDER THE AGREEMENT.

**INSURANCE AGENT'S STATEMENT AND CERTIFICATION: I HAVE REVIEWED THE ABOVE REQUIREMENTS WITH THE BIDDER NAMED BELOW HAVE ADVISED THE BIDDER OF REQUIRED COVERAGE NOT PROVIDED THROUGH THIS AGENCY.**

**AGENCY NAME:** \_\_\_\_\_ **AUTHORIZING SIGNATURE:** \_\_\_\_\_

**BIDDER'S STATEMENT AND CERTIFICATION: IF AWARDED THE CONTRACT, I WILL COMPLY WITH THE CONTRACT INSURANCE REQUIREMENTS.**

**BIDDER NAME:** \_\_\_\_\_ **AUTHORIZING SIGNATURE:** \_\_\_\_\_

End of Section 00312

Required Bid Attachment

AFFIDAVIT REGARDING DRUG-FREE WORKPLACE PROGRAM

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ )

The undersigned, having been duly sworn, deposes and says as follows:

- 1. I am over 18 years of age, and I have personal knowledge of the matters stated herein.
- 2. I am the \_\_\_\_\_ of \_\_\_\_\_,  
(Position) (Name of Company)  
hereinafter referred to as "the Bidder".
- 3. As of the date of the submittal of its bid on the Project: **Gatlinburg Sludge Thickening ReRoof 2022**, the Bidder has a drug-free workplace program that complies with the requirements of Tennessee Code Annotated Section 50-9-101, et seq.

Further, Affiant saith not.

Signature \_\_\_\_\_

Sworn to and subscribed before me, this \_\_\_\_\_ day of \_\_\_\_\_ 2002.

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

My commission expires \_\_\_\_\_

***(Note: Additional Certificate of Compliance from the Tennessee Department of Labor and Workforce Development shall also be attached. Failure to provide both shall deem Bid as Non-responsive.)***

End of Affidavit - Section 00320

**SECTION 01008 - SUPPLEMENTARY GENERAL CONDITIONS**

**RELATION TO GENERAL CONDITIONS**

The following supplements modify the "the Contract for Construction," AIA Document A107-1999.

**ARTICLE 6: GENERAL PROVISIONS**

**1.1 EXECUTION, CORRELATION AND INTENT**

- A. Add the following new subparagraphs:
  - 6.1.A If there any conflict or discrepancy within or between any of the Contract Documents involving the quality or quantity of Work required, it is the intention of the Contract that the Work of highest quality or greatest quantity shown or specified shall be furnished .
  - 6.1.B Whether or not the word "all" is used in the specifications, coverage is intended to be complete, except where partial coverage is specifically and expressly noted. In all cases where an item is referred to in the singular number, it is intended that the reference shall apply to as many such items as are required to complete the work. Words such as "install", "provide", "furnish", and "supply" shall be construed as meaning complete furnishing, installing, and constructing unless modified by additional information.
  - 6.1.C In case there are discrepancies or conflicts among the Contract Documents, precedence of the various documents shall be as follows in descending order:
    - I. Agreement
    - II. Addenda
    - III. General Conditions, Supplementary General Conditions of Division I
    - IV. Technical Specifications
    - V. Drawings Large Scale
    - VI. Drawings Small Scale Drawings.

**ARTICLE 6: GENERAL PROVISIONS**

**1.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

- A. Add subparagraph 6.6 with the following:
  - 6.6 The Contractor will be furnished free of charge five (5) copies of Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage, and handling.

**ARTICLE 7: OWNER**

**1.3 OWNER RESPONSIBILITY**

- A. Add the following new Paragraph
  - 7.4 Owner Responsibility

The Owner shall have no responsibility for nor control of construction supervision, schedules, means, methods, techniques, sequences, procedures, or coordination of any portion of the Work under this Contract.

**ARTICLE 8: CONTRACTOR**

**1.4 REVIEW OF CONTRACT DOCUMENT AND FIELD CONDITIONS BY CONTRACTOR**

- A. Add the following new subparagraph
  - 8.1.4 No verbal agreement or conversation with any officer, representative, agent, or employee of the Owner or Architect, either before or after the execution of this contract shall affect or modify the terms or obligations herein contained.

END OF SECTION

## SUMMARY OF WORK

### 1.1 Scope:

- A. The work indicated by the Contract Documents consists of providing all items, articles, materials, operations, or methods listed, mentioned, or scheduled on the **Drawings (Section 01951 & 01961 herein)** and in these Specifications, or other Documents, including all labor, materials, services, equipment, and incidentals necessary for their completion, including but not limited to the scope of work as listed on each drawing of Section 01951.

### 1.2 Use of Site and Storage of Materials:

- A. Equipment and materials shall be so handled and sorted at the site as to avoid interference with the operation of the buildings for the Owner's business. In no case shall emergency fire vehicles be blocked from immediate access to the buildings.
- B. No materials shall be stored or stacked on the existing roof deck in such a manner as to exceed a live load of **15** psf, except as approved by Architect.
- C. All damage to existing ground cover, existing paving, concrete walks, masonry or precast concrete, caused by storage of equipment and materials, construction vehicular traffic, or by other construction operations under the Contract shall be corrected by the Contractor without additional cost to the Owner.
- D. All roofing materials shall be stored under cover, in such locations, and by such methods that will prevent the entrance of moisture into the materials. Insofar as possible, materials shall not be delivered to the site until they can be incorporated in the work the same day they are delivered. It is the responsibility of the Contractor to protect all roofing materials and roof insulation from ground and construction moisture and weather before and during construction.

### 1.3 Sequence of Work:

- A. The sequence of work in the various roof areas shall be such as to minimize construction traffic over completed roof areas.
- B. Roofing material shall be hoisted directly from grade to the roof level where roofing is to be installed and shall not be transported over existing roofs at roof levels below work areas.
- C. Roofing work shall be coordinated with weather forecasts to preclude installation during rain.

### 1.4 Certification:

- A. Upon completion of the work, the Contractor shall furnish to the Owner, the roofing Manufacturer's written certification that the work has been installed in accordance with the specifications and that the roofing and flashing have been installed in accordance with the roofing Manufacturer's requirements for the type of roofing and flashing specified, and issue The Manufacturer's Warranty to Owner.

### 1.5 Final Inspection:

- A. Upon completion of the work, a final inspection shall be made by representatives of the Owner, the Contractor and the Architect, as well as the Roofing Manufacturer, to ascertain acceptance of the project for warranty issuance. Final payment for the work will not be authorized until such final inspection has been made by all parties, including the Manufacturer of the Roofing System and all work is found to have been performed in accordance with the Contract requirements.

**1.6 Contract Documents:**

- A. Contract Documents shall be as enumerated under Article 8 of the Agreement and shall take precedence in the order as listed herein, except where noted otherwise.

**1.7 Definitions:**

- A. General Explanation: A substantial amount of the Contract Document specification language constitutes specific definitions for terms found in the other contract documents, including the drawings which must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon. Certain terms used repetitiously in the Contract Documents are defined generally in this Article.
  1. General Requirements: The provisions or requirements of the Division 1 Sections. The General Requirements apply to the entire work of the Contract and, where so indicated, to their elements of work which are included in the Project.
  2. Owner: Refers to the Owner as defined in the Owner-Contractor Agreement.
  3. Contractor: Refers to the party or parties contracting to perform the work to be done under this Contract or the legal representatives of such party or parties.
  4. Architect: Refers to Architect: Doyle E. Jones, 134 Court Avenue, Suite 207, Sevierville, Tennessee, 37862 or his legal representatives. Contacts or requests to the Architect shall be to Doyle E. Jones (865) 453-6311.
  5. Indicated: The term "indicated" is a cross reference to details, notes or schedules on the Drawings, other paragraphs or schedule in the Specifications, and similar means of recording requirements in the Contract are used in lieu of "indicated," it is for the purpose of helping the reader locate the cross reference, and no limitation of location is intended except as specifically noted.
  6. Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed," "required," "authorized," "selected," "approved," "accepted," and "permitted," mean "directed by the Architect," "requested by the Architect," etc. However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
  7. Approve: Where used in conjunction with the Architect's/Engineer's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the meaning of the term "approved" will be held to the limitations of the Architect's responsibilities and duties as specified in the General and Supplementary Conditions. In no case will "approve" by the Architect be interpreted as a release of the Contractor from responsibilities to fulfill the requirements of the Contract Documents.
  8. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
  9. Install: Except as otherwise defined in greater detail, the term "install" as used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing protection, cleaning and similar operations, as applicable in each instance.
  10. Provide: Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for the intended use, as applicable in each instance.

11. Installer: The entity (person or firm) engaged by the Contractor or his sub-contractor or sub-contractor for the performance of a particular unit of work at the project site, including installation erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in the operations they are engaged to perform.

**1.8 Governing Regulations:**

A. Codes:

1. Work shall conform to the requirements of the 208 Edition of the International Building Code and the 2018 Edition of the Life Safety Code.
2. Plumbing and gas piping work shall conform to the requirements of the International Plumbing and Gas Codes, 2018 editions.
3. Electrical work shall conform to the requirements of the National Electrical Code, NFPA No. 70, Latest Edition.

B. Code Standards:

1. Heating, ventilating and air conditioning work shall conform to requirements of NFPA No. 90A, Standard for the Installation of Air Conditioning and Ventilating Systems.

C. Material and Testing Standards:

1. Components of the work shall conform to requirements of American Society for Testing and Materials (ASTM) standards, American National Standards Institute (ANSI) standards, and trade association standards, as listed in the various other sections of the specifications.

**1.9 Manufacturer's Directions:**

- A. All manufactured articles, material and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's instructions and recommendations and their specifications shall be brought to the attention of the Architect and the procedures reconciled before proceeding with the work.
- B. Wherever the plans and/or the specifications call for product to be installed in accordance with the manufacturer's recommendations, a copy of these recommendations shall be furnished by the Contractor and shall be kept in the job superintendent's office. They shall be available to the Architect and the Owner's representative at all times requested during construction.
- C. **Drawings:**
  1. Contract Construction Drawings are as enumerated in the Owner-Contractor Agreement.

End of Section 01010



**SECTION 01330 - SUBSTITUTIONS**

**DIVISION 1 - GENERAL REQUIREMENTS**, applies to all work hereunder.

**1.1 Description of Requirements:**

## A. Definitions and Explanations:

1. The Contractor's request for changes in products, materials and methods of construction required by the Contract documents are considered requests for "substitutions, " and are subject to requirements hereof.
2. "OR EQUAL": Where named products, materials or methods are accompanied by "Or Equal" or other language of the same effect, Contractor's requests to use unnamed products, materials or methods are considered requests for substitutions, and are subject to requirements thereof.
3. **Requested substitutions during bidding** period, which have been accepted prior to the Contract Date, are included in Contract document and are not subject to requirements for substitutions as specified herein.
4. Contractor's determination of and compliance with governing regulations and lawful orders issued by governing authorities do not constitute "substitutions;" and do not constitute a basis for change orders, except as provided for in Contract documents.

**1.2 Limitations for Making Substitutions:**

- A. Conditions: Refer to Supplementary Conditions, paragraph 4.4.4.1 for description of the circumstances which entitle Contractor to submit a request for a substitution and conditions which must be fulfilled in so doing.
1. "OR EQUAL" clauses (if any) in Contract documents enable Contractor to request substitutions where indicated.
  2. Where required product, material or method cannot be provided within Contract time, but not as a result of Contractor's failure to pursue the work promptly or coordinate various activities properly.
  3. Where required product, material or method cannot be provided in a manner which is compatible with other materials of the work or cannot be properly coordinated therewith, or cannot be warranted (guaranteed) as required, or cannot be used without adversely affecting Owner's insurance coverage on completed work, otherwise overcome except by making requested substitution, which the Contractor thereby certifies to overcome such non-compatibility, non-coordination, non-warranty, non-insurability or other non-compliance as claimed.
  4. Where required product, material or method cannot receive required approval by a governing authority and requested substitution can be so approved.
  5. Where substitutional advantage is offered Owner, in terms of cost, time or other valuable considerations, after deduction offsetting responsibilities Owner may be required to bear, including additional compensation to Architect for redesign and evaluation services, increased cost of other work by Owner or separate contractors and similar considerations.
- B. Work-Related Submittals: Contractor's submittal of, and Architect's acceptance of, shop drawings, product data or samples which indicate work not complying with requirements of

contract documents, does not constitute an acceptable and valid request for, nor approval of, a substitution.

**1.3 Submittals:**

- A. Requests for Substitutions: Submit three (3) copies of requests for substitutions, fully identified for product, material or method being replaced by substitution, including related specification section and drawing number(s), and fully documented to show compliance with requirements for substitutions. Submit the following:
  - 1. Complete product data, drawings and descriptions of materials and methods where applicable.
  - 2. Samples where applicable or requested.
  - 3. Detailed comparison of significant qualities (size, weight, durability, performance and similar characteristics and including visual effect where applicable) for proposed substitution in comparison with original requirements.
  - 4. Coordination information, indicating every required change in every other element of the work which is effected by substitution, extended to include work by Owner and separate contractors.
- B. Change Order Form: Submit requests for substitutions which propose a change in either the Contract sum or Contract time, in form and by procedures required for change order proposals.
- C. Action by Architect: General: Within one week of receipt of Contractor's request for substitution, Architect will request additional information or documentation as may be needed for his evaluation of request. Within two weeks of receipt of request, or within one week of receipt of requested additional information or documentation (whichever is later) Architect will notify the Contractor of either acceptance or rejection of proposed substitution.
  - 1. Rejection will include statement of reasons for rejection (non-compliance with requirements for requested substitutions or other reasons as detailed).
  - 2. Acceptance will be in the form of a change order, when required by the Contract documents.

End of Section - 01330

**Section 01340 - SUBMITTALS:**

**DIVISION 1, GENERAL REQUIREMENTS**, applies to all work hereunder.

**1.1 Description of Requirements:**

- A. The types of submittals controlled by these general requirements include shop drawings, product data, samples and miscellaneous work related submittals. Detail submittal requirements are specified in applicable sections for each unit of work.
- B. Definitions: The work-related submittals of this Section, in addition to the definitions of the General Conditions and elsewhere in the Contract documents, are further categorized for convenience as follows:
  - 1. Shop Drawings include specially prepared technical data of all forms including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for application to more than one project.
  - 2. Product Data include standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed herein.
  - 3. Samples include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.

**1.2 General Submittal Requirements:**

- A. Coordination and Sequencing: Coordinate preparation and processing of submittals with performance of the work so that work will not be delayed by submittals. Coordinate and sequence different categories of submittals for the same work, and for interfacing units of work, so that one will not be delayed for coordination with another. No extension of time will be allowed because of failure to properly coordinate and sequence submittals.
- B. Preparation of Submittals: Provide permanent marking on each submittal to identify project, data, contractor, submittal name and similar information to distinguish it from other submittals. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through Contractor's office will be returned "without action."
  - 1. Show Contractor's executed review and approval marking and provide space for Architect's "Action" marking.
  - 2. Transmittal Form: Provide places to indicate project, date, "To"; "From"; names of subcontractors, supplies, manufacturers, required references, category and type of submittal, purpose, description, distribution record (for both transmittal and submittals), and signature of transmitter.

**1.3 Specific Category - Submittals Requirements**

- A. General: Except as otherwise indicated in individual work sections, comply with general requirements specified herein for each indicated category of submittal.
  - 1. Shop Drawings: Provide information, on blue or black line prints, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and

special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Architect to be used in connection with the work.

- a. Submittal: Unless otherwise specified, the number of shop drawings which the Contractor shall submit and, if necessary resubmit, is the number that the Contractor requires to be returned plus two (2) copies which will be retained by the Architect.
2. Product Data: Collect required data into one submittal for each unit of work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements. Maintain one set of product data (for each submittal) at project site, available for reference by Architect or others.
  - a. Submittals: Do not submit product data, or allow its use on the project, until compliance with requirements of Contract documents has been confirmed by Contractor. Submittal is for information and record, unless otherwise indicated. Initial submittal is final submittal unless returned promptly by Architect marked with an "Action" which indicates an observed non-compliance. Submit three (3) copies (two [2] will be returned).
3. Samples: Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Architect's selection is required. Prepare samples to match the Architect's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Architect. Architect will not "test" samples (except as otherwise indicated) for other requirements, which are therefore the exclusive responsibility of the Contractor.
  - a. Submittal: Provide a single set of samples for Architect's review and "Action." Initial submittal is final submittal unless returned with "Action" which requires resubmittal.
  - b. Quality Control Sets: Maintain set of samples at project site, in suitable condition and available for quality control comparisons by Architect and by others.
4. Warranties: Furnish two (2) executed copies of specified and coincidental product warranties.
5. Closeout Submittals: Refer to Section 01720 for specific general requirements on submittal of closeout information.
  - a. Record Document Copies: Furnish one (1) set.
  - b. Maintenance/Operation Manuals: Furnish two (2) bound copies.
  - c. Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys and similar physical units to be submitted.
6. General Distribution: Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the work. Include such additional copies in transmittal to Architect where required to receive "Action" marking before final distribution. Show such distributions on transmittal forms.

- 7. "Architect's Action": Where action and return is required or requested, Architect will review each submittal and return without delay.
  - a. Architect will stamp each shop drawing following his review to signify the following "Action."

**ARCHITECT: DOYLE E. JONES, AIA, RRC**  
 134 Court Avenue, Suite 207  
 Sevierville, TN 37862 (865) 453-6311

APPROVED  
 APPROVED AS CORRECTED

If checked above, fabrication MAY be undertaken. Approval does not authorize changes to contract sum unless stated in separate letter or change order.

If checked below, fabrication MAY NOT be undertaken. Resubmit corrected copies for final approval. Correction should be limited to items marked.

REVISE AND RESUBMIT  
 NOT APPROVED

Reviewing is only for conformance with the design concept of the Project and compliance with the information given in the Contract documents. The Contractor is responsible for dimensions to be confirmed and correlated at the site; for information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction, and for coordination of the work of all trades.

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

End of Section 01340

**SECTION 01640 - PRODUCT HANDLING**

**PART 1 - GENERAL**

**1.1 Description:**

- A. Work included: Protect products scheduled for use in the work by means including, but not necessarily limited to, those described in this Section.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Additional procedures also may be prescribed in other Sections of these specifications.

**1.2 Quality Assurance:**

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

**1.3 Manufacturer's Recommendations:**

- A. Except as otherwise approved by the Architect, determine and comply with manufacturer's recommendations on product handling, storage, and protection.

**1.4 Packaging:**

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Architect may reject as non-complying such material and products that do not bear identification satisfactory to the Architect as to manufacturer, grade, quality, and other pertinent information.

**1.5 Protection:**

- A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.
- B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.
- C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

**1.6 Repairs and Replacements:**

- A. In event of damage, promptly make replacements and repairs to the approval of the Architect and not additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Architect to justify an extension in the Contract time of completion.

End of Section - 01640

**SECTION 01720 - PROJECT CLOSEOUT AND RECORDS**

**DIVISION 1, GENERAL REQUIREMENTS**, applies to all work hereunder.

**PART 1 DESCRIPTION OF REQUIREMENTS**

**1.1 Definitions:** Closeout is hereby defined to include general requirements near the end of Contractor time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in Sections of Division 2 through 16. Time of closeout is directly related to "Substantial Completion," and therefore may be either a single time period for the entire work or series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this Section, regardless of whether resulting from "phased completion" originally specified by the contract documents or subsequently agreed upon by Owner and Contractor.

**1.2 PREREQUISITES TO SUBSTANTIAL COMPLETION**

- A. General:** Prior to requesting Architect's inspection for certification of substantial completion, as required by General Conditions (for either the entire work or portions thereof), complete the following list and know exceptions in request.
1. In progress payment request coincident with or first following date claimed, show either 100% completion of portion of work claimed as "substantially complete," or list incomplete items, value of in completion, and reasons for being incomplete.
  2. Obtain and submit release enabling Owner's full and unrestricted use of the work and access to services and utilities, including (where required) occupancy permits, operating certificates and similar releases.
  3. Complete final cleaning up requirements (later here specified).
  4. Touch-up and otherwise repair and restore marred exposed finishes.

**1.3 INSPECTION PROCEDURES**

- A. General:** Upon receipt of Contractor's request for inspection including the Contractor's list of items to be completed or corrected (AIA 201, 9.8.1), the Architect will either proceed with inspection or advise Contractor of prerequisites not fulfilled. following initial inspection, Architect will either prepare certificate of substantial completion, or advise Contractor of work which must be performed to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed.
1. When the Architect makes his final inspection to verify those corrections and perhaps finds that some of the items which were previously listed have not been corrected, the Contractor will be held responsible for the costs of the Architect's time and services required for subsequent "Final Inspection" visits. These services will be billed to the Contractor direct and final payment to the Contractor will not be approved by the Architect until the additional services mentioned above are paid in full by the Contractor.
    - a. For these Extra Architectural Services (and related Engineering Services), the Contractor agrees to pay the Architect as follows: \$ 90.00 per hour for each hour involved in extra field inspection, as well as \$ 50.00 per hour for each office hour related to this extra work; further, the Contractor agrees to pay the Architect \$0.32 per mile for travel expense to and from the project site; and all other costs involved in relation to any additional final inspections, such as long distance telephone calls, reproduction copies, etc.

#### 1.4 PREREQUISITES TO FINAL ACCEPTANCE

- A. General: Prior to requesting Architect's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted.
  2. Submit certified copy of Architect's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect.
  3. Submit consent of Surety.
  4. Revise and submit evidence of continuing insurance coverage complying with insurance requirements (If Applicable).

#### 1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for Architect's reference during normal working hours.
1. Record Drawings: Maintain a white-print set (blue-line or black-line) of contract drawings, as furnished by the Architect, and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on contract drawings. Mark with red erasable pencil and, where feasible, use other contract drawings, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related change order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.
  2. Maintenance Manuals: Organize maintenance-and-operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb tabbed); Include emergency instructions, spare parts listing, warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data and similar applicable information. Bind each manual of each set in a heavy-duty 2", 3 ring vinyl-covered binder, and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.

#### 1.6 CLOSEOUT PROCEDURES

- A. General Operating/Maintenance Instruction: Arrange for each installer of work requiring continuing maintenance (by Owner) or operation, to meet Owner's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate start-up, shutdown, emergency operations, noise and vibration adjustments, safety, economy/efficiency



adjustments and similar operations. review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds and similar continuing commitments.

## **1.7 FINAL CLEANING**

- A.** General: Special cleaning for specific units of work is specified in sections of Division 2 through 16. General cleaning during progress of work is specified in General Conditions. Provide final cleaning of the work, at time indicated, consisting~ of cleaning each surface or unit of work to normal "clean" condition expected for a first class building cleaning and maintenance program. Comply with manufacturers' instructions for cleaning operations. The following are examples, hut not by way of limitation, of cleaning levels required:
1. Remove labels which are not required as permanent labels.
  2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances which are noticeable as vision-obscuring materials. Replace broken glass.
  3. Clean exposed exterior hard-surfaced finishes, including metals, masonry, stone, concrete, painted surfaces, plastic, tile, wood, special coatings, and similar surfaces, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated; avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
  4. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
  5. Clean project site (yard and grounds), including landscape, development areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits.
  6. Compliance: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.

## **1.8 CONTINUING INSPECTIONS**

- A.** General: Except as otherwise required by specific warranties, agreements to maintain, workmanship/maintenance bonds, and similar continuing commitments, comply with Owner's requests to participate in inspections at end of each time period of such continuing commitments. Participate in general inspection of the work approximately one year beyond date(s) of substantial completion.

End of Section



SLUDGE THICKENING BUILDING -----●

1025 Banner Rd



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**SCOPE OF ROOF WORK LEGEND:****DEMOLITION:**

- D1:** REMOVE & DISPOSE OF ALL EXISTING MEMBRANE ROOFING.  
**D2:** REMOVE ALL INSULATION DOWN TO METAL DECK..  
**D3:** REMOVE & DISPOSE OF ALL EXISTING THRU WALL SCUPPERS, LEADERHEADS & DOWNSPOUTS.

**PREPARATION:**

- P1:** CLEAN EXIST METAL DECK SUITABLE FOR ADHESION OF ADHESIVE BACKED VAPOR BARRIER.  
**P2:** REPLACE ANY DETERIORATED METAL DECK AFTER CONCURRENCE WITH ARCHITECT, PER UNIT PRICE ALLOWANCE.  
**P3:** INSTALL VAPOR BARRIER/(TEMPORARY ROOF), COVERING PERIMETER WOOD PLATES IN PREPARATION FOR INSULATION

**INSULATION:**

- I1:** INSTALL MECHANICALLY OR ADHESIVELY ATTACHED INITIAL TAPERED INSULATION "CRICKET" [ $\frac{1}{2}$ "/FOOT TAPER].  
**I2:** INSTALL MECHANICALLY ATTACHED SECONDARY 1" FLAT STOCK INSULATION.  
**I3:** INSTALL ADHESIVELY ATTACHED THIRD 1" FLAT STOCK INSULATION, STAGGERING JOINTS 12" E.W. FROM JOINTS BELOW.

**NOTE:** WND UPLIFT RESTRAINT ATTACHMENT PER SPECIFICATION, VARYING FOR MEMBRANE AND FASCIA

**NEW ROOFING:**

- R1:** INSTALL COPOLYMER REINFORCED THERMOPLASTIC MEMBRANE (PVC-KEE) ROOFING SYSTEM ADHESIVELY ATTACHED PER SPECS & ROOFING SYSTEMS COMPANY (MANUF.) RECOMMENDATIONS A WARRANTABLE ROOFING SYSTEM.  
**R2:** INSTALL METAL WALL FASCIA (TRIM) AND FLASHING PER **DTLS.**  
**R3:** INSTALL THRU WALL SCUPPERS, LEADERHEAD & DOWNSPOUTS PER **DTLS.**  
**R4:** INSTALL MEMBRANE TO SIDES AND TOP OF BLOCK ROOF SEPARATION WALLS.

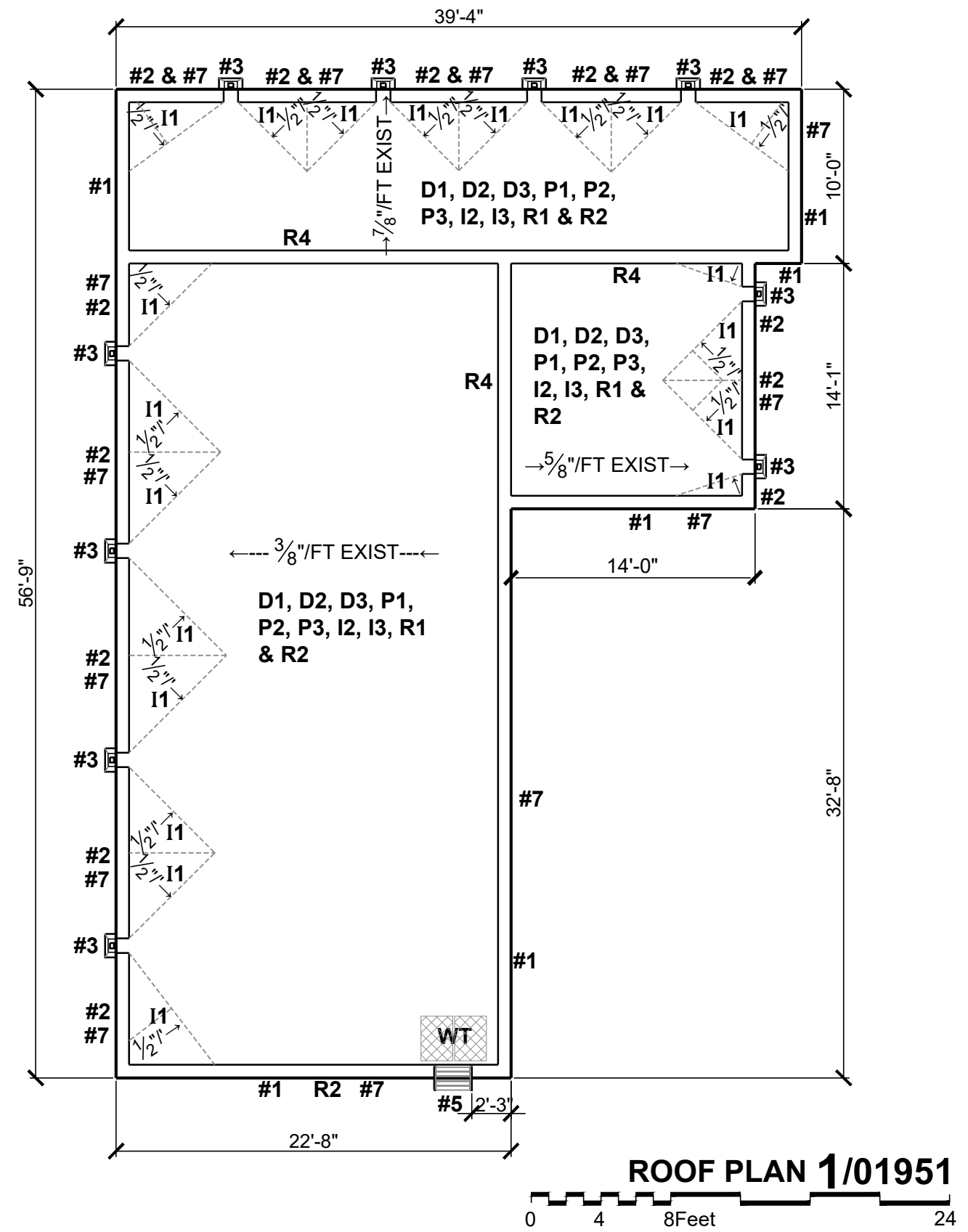
- #1** INSTALL PARAPET WALL CAP (TOP & SIDES) MEMBRANE FLASHING & FASCIA TRIM PER DETAIL 1 /01961.  
**#2** INSTALL PARAPET WALL CAP (BOTTOM) MEMBRANE FLASHING & FASCIA TRIM PER DETAIL 2 /01961.  
**#3** INSTALL SCUPPER/LEADERHEAD MEMBRANE & METAL PER DETAILS 3 & 4 /01951.  
**#5** INSTALL WALL ACCESS LADDER PER DETAILS 5 & 6 01962.  
**#7** INSTALL FASCIA TRIM TRIM PER DETAIL 7 /01962  
**WT** INSTALL WALKTREAD AT LADDER LANDING

**MISCELLANEOUS NOTES:**

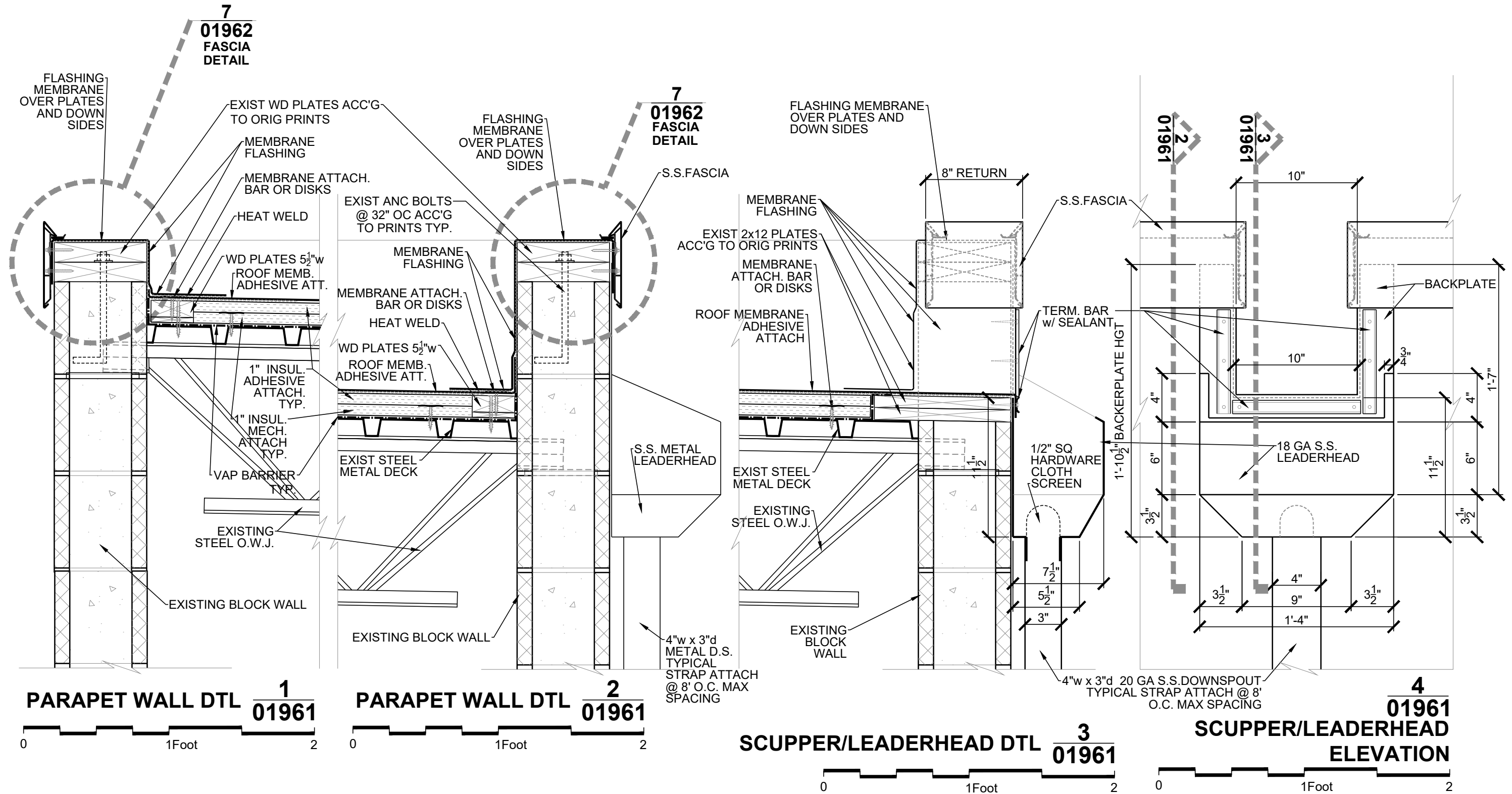
- MN1:** MEASUREMENTS: BIDDER SHALL BE COMPLETELY RESPONSIBLE FOR HIS OWN MEASUREMENTS, THICKNESSES (FOR FASTENER LENGTH DETERMINATION), AND QUANTITIES. THE THICKNESSES SHOWN HERE ARE PROVIDED AS A GENERAL GUIDELINE BASED UPON THE ARCHITECT'S LIMITED TEST CUT EXPLORATION. APPROX 1,650 SF HORIZ TO EXT BLDG FACE

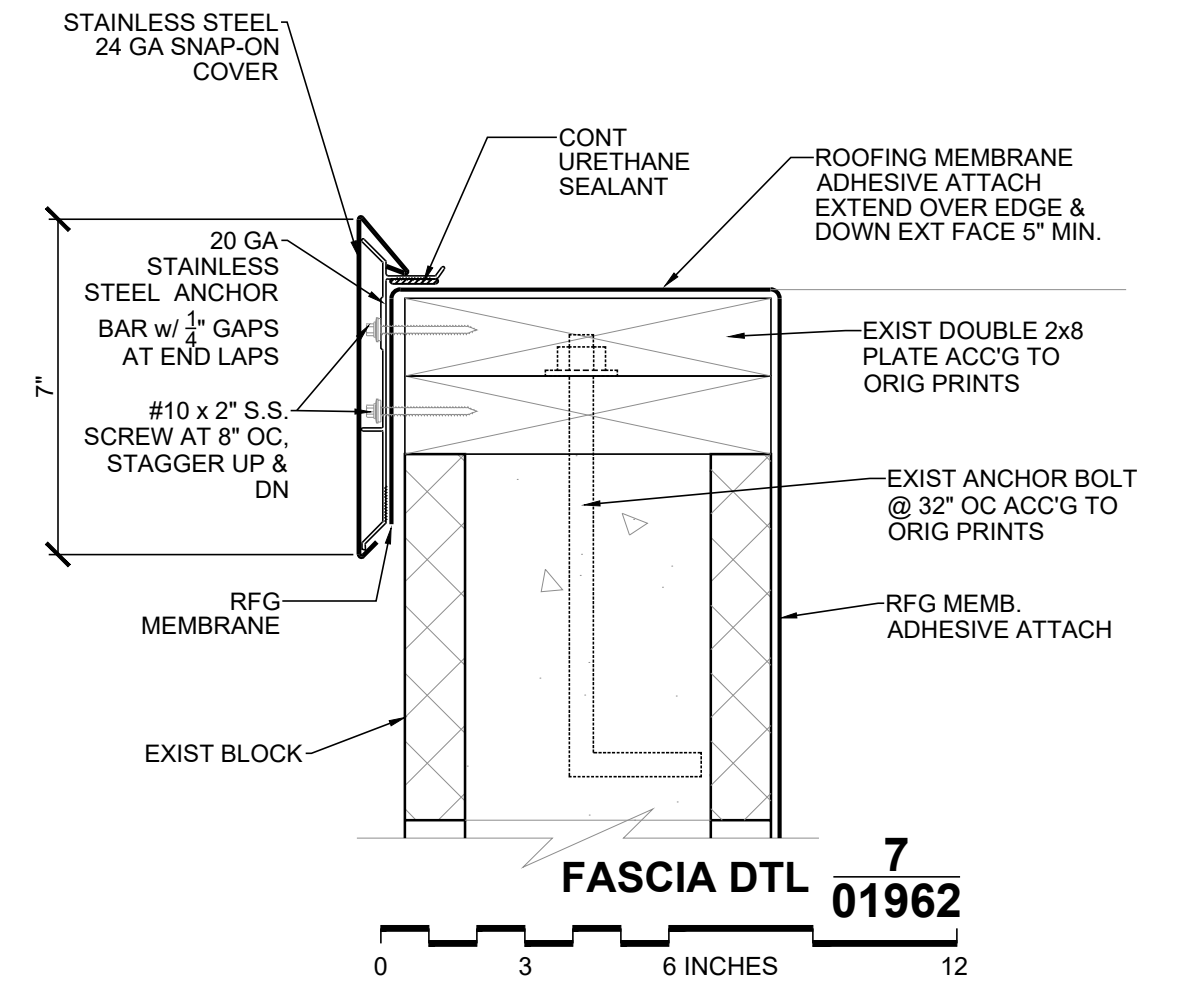
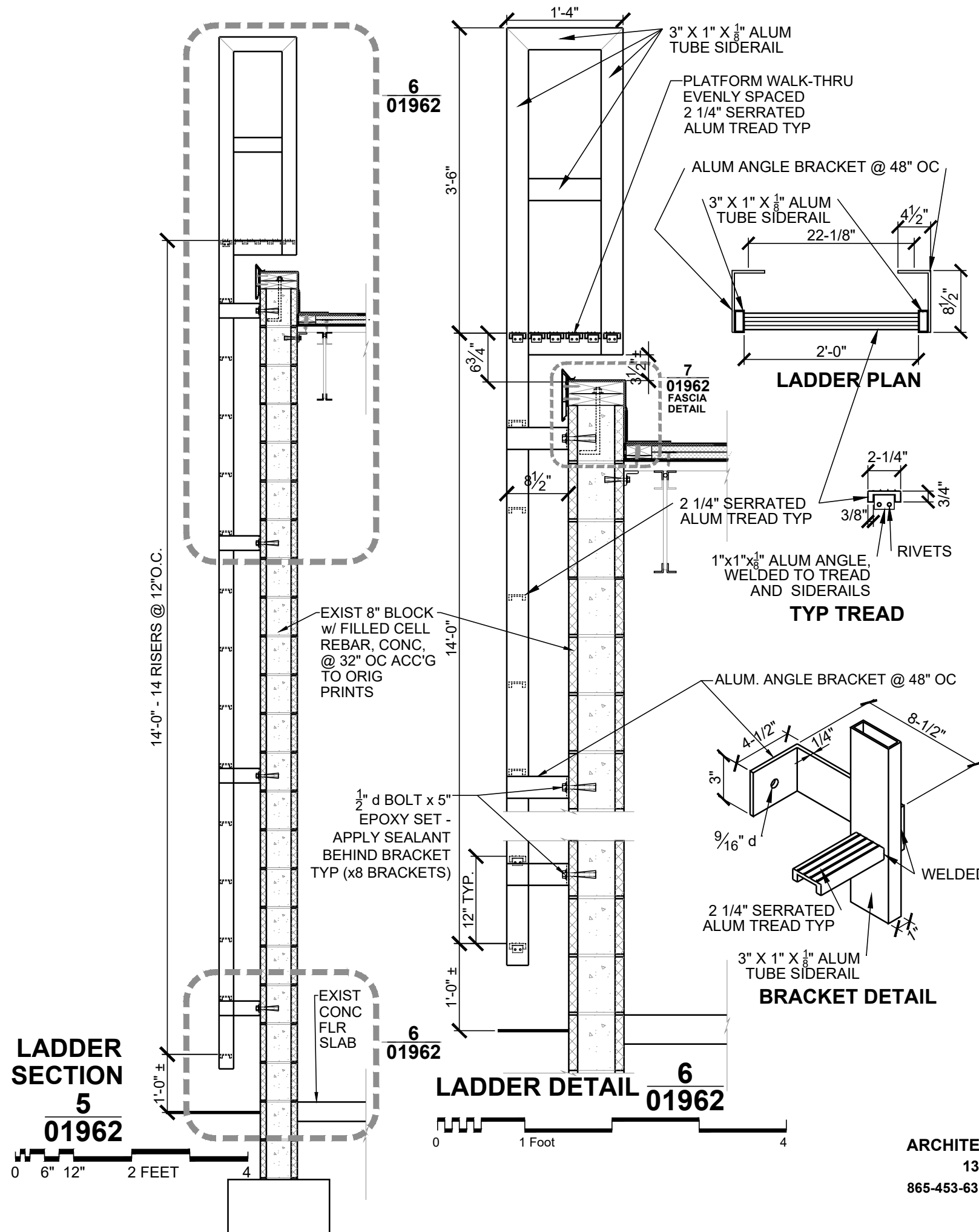
**EXISTING ROOF CONSTRUCTION:**

- A:** ORIGINAL CONSTRUCTION 1992 +/-  
**B:** PVC-KEE 040 MEMBRANE ON 2" ISOCYANURATE INSULATION ON SLOPED METAL DECK ON STEEL OPEN WEB JOISTS.

**ROOF PLAN 1/01951**

0 4 8Feet 24





**SECTION 02072 - MINOR DEMOLITION  
(Roofing Removal)**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
1. Removal and disposal of existing membrane roofing, underlying insulation, metal wall caps, leaderheads, and downspouts.

**1.2 PROJECT CONDITIONS**

- A. Occupancy:
1. The Owner will continue to occupy the existing buildings.
- B. Existing Conditions:
1. After the project is begun, the Contractor is responsible for the condition of structures.
- C. Unforeseen Conditions: Should unforeseen conditions be encountered that affect design or function of project, investigate fully and submit an accurate, detailed, written report to the architect. While awaiting the Architect's response, reschedule operations if necessary to avoid delay of overall project.

**PART 2- PRODUCTS (NOT USED)**

**PART 3- EXECUTION**

**3.1 EXAMINATION**

- A. Insofar as is practicable, arrange operations to reveal unknown or concealed conditions for examination and verification before removal or demolition.

**3.2 PREPARATION**

- A. Protection:
1. Provide protective measures to ensure free and safe passage of persons to and from occupied areas.
  2. Erect temporary protection such as walks, fences, railings, canopies, etc., where and as required by authorities having jurisdiction.

**3.3 DEMOLITION - GENERAL**

- A. Remove: Unless items are otherwise indicated to be reinstalled or salvaged, remove and scrap.
- B. Remove and Install New: Remove and dispose of items indicated and install new items in the same location (or in the location indicated).
- C. Perform work in a systematic manner.
- D. Remove existing construction only to the extent required by new construction and as indicated in the contract documents.
- E. Perform selective demolition using methods which are least likely to damage work to remain and which will provide proper surfaces for reroofing.

- F. Remove debris daily.
- G. Use any methods permitted by governing regulations and the requirements of the contract documents.

**3.4 DISPOSAL OF DEMOLISHED MATERIALS**

- A. Promptly dispose of materials resulting from demolition operations. Do not allow materials to accumulate on site.
- B. Transport materials resulting from demolition operations and legally dispose of off-site.

**3.5 CLEANING**

- A. Remove tools and equipment. Dispose of scrap.
- B. Broom clean walkway areas.
- C. Leave exterior areas free of debris.
- D. Clean soil, smudges, and dust from surfaces to remain.

**END OF SECTION 02072**

## SECTION 05515 - WALL LADDER

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Aluminum Fixed Vertical Wall Ladders. (Roof Access)
- B. Related Sections
  - 1. Section 06100 - Carpentry.
  - 2. Section 07533 - Thermoplastic Copolymer Membrane Roofing.

#### 1.2 REFERENCES

- A. ANSI A14.3: Ladders - Fixed - Safety Requirements.
- B. OSHA 1910.23: Ladders.

#### 1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
- C. Shop Drawings for Ladders:
  - 1. Plan and section of ladder installation.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products until installation inside under cover. If stored outside, under a tarp or suitable cover.

#### 1.5 WARRANTY

- A. Limited Warranty: Five years against defective material and workmanship, covering parts only, no labor or freight. Defective parts, if deemed so by the manufacturer, will be replaced at no charge, freight excluded, upon inspection at manufacturer's plant which warrants same.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Basis of Design: Precision Ladders, LLC, Morristown, TN, 800-225-7814; Tel: 423-586-2265;
- B. Requests for substitutions will be considered in accordance with provisions of Submittals Section.

#### 2.2 ALUMINUM FIXED VERTICAL LADDER

- A. Aluminum Fixed Vertical Ladder and Components: Ladder, walk-thru platform, side rails, wall mounting brackets.
  - 1. Model: Model FL, Aluminum Fixed Vertical Ladder.



2. Capacity: Unit shall support a 1,500 lb (680 kg) loading without failure.
3. Performance Standard: Units designed and manufactured to meet or exceed ANSI A14.3, OSHA 1910.23, OSHA 1910.28 and OSHA 1910.29.

**B. Components:**

1. Ladder Stringer: 2-1/2 inch by 1-1/16 inch by 1/8 inch (64 mm by 27 mm by 3 mm) extruded 6005-T5 aluminum channel. Pitch: 90 degrees.
2. Ladder Tread: 2-1/4 inch by 3/4 inch by 1/4 inch (57 mm by 19 mm by 6 mm) extruded 6005-T5 aluminum with deeply serrated top surface.
3. Ladder Mounting Bracket: 8-1/2 inch by 2 inch by 3 inch by 1/4 inch thick (216 mm by 51 mm by 76 mm by 6 mm) aluminum angle.
4. Walk-Thru:
  - a. Hand Rails: 1-1/4 inch (32 mm) aluminum square tube with rounded edges.
  - b. Mounting Brackets: 4 inch by 4 inch by 1/4 inch (102 mm by 102 mm by 6 mm) aluminum.
  - c. Side Rails: 42 inch (1067 mm) side rail extension for through ladder exits.
5. Walkthrough Platform:
  - a. Bar grating.
  - b. Handrails: 1-1/4 inch (32 mm) aluminum square tube 42 inches (1067 mm) high.
6. Finishes:
  - a. Standard: Mill finish.

**2.3 FABRICATION**

- A. Fabricate ladder ready for installation before shipment to the site.

**PART 3 EXECUTION**

**3.1 EXAMINATION**

- A. Examine materials upon arrival at site. Notify the carrier and manufacturer of any damage.

**3.2 INSTALLATION**

- A. Install in accordance with approved submittals.

**3.3 PROTECTION**

- A. Protect installed products until completion of project.
- B. Repair or replace damaged products before Substantial Completion.

END OF SECTION

**SECTION 06100 - CARPENTRY****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Re-Roofing wood nailers 2x4.
  - 2. Rough carpentry for:
    - a. Miscellaneous lumber for attachment and support of other work, **Blocking**, if needed, to replace any possible deteriorated existing blocking.

**1.2 DEFINITIONS**

- A. Exposed: Wood products that will be exposed to view when work is completed, with or without a paint or stain finish.

**1.3 QUALITY ASSURANCE**

- A. Lumber: Comply with NIST PS 20 and approved grading rules and inspection agencies.
- B. Inspection Agencies:
  - 1. WWPA: Western Wood Products Association.
- C. Grade Stamps for Concealed Lumber: Each piece of lumber, applied by inspection agency and showing compliance with each specified requirement.

**1.4 DELIVERY STORAGE AND HANDLING**

- A. Protect wood products against moisture and dimensional changes. Support stacks at several uniformly spaced points to prevent deformation. Store stacks raised above ground. Cover to protect from rain and snow. Select and arrange cover to allow air circulation under and all around stacks to prevent condensation. Maintain and restore displaced coverings. Remove from the site any wood products that have been subjected to moisture or that do not comply with the specified moisture requirements.

**PART 2 - PRODUCTS****2.1 CONCEALED BOARDS - LESS THAN 2 INCHES THICKNESS (Blocking)**

- A. Moisture Content: Kiln-dry (15 percent maximum).
- B. Surfacing: S4S.

**2.2 Grading Agency:**

- A. WWPA.
- B. Species:
  - 1. Douglas Fir-Larch.
  - 2. Douglas Fir (South).
  - 3. Hem-Fir.
- C. Grade: No. 2, common, or select merchantable boards.
- D. Wood members need to be Pressure-Treated, Wolmanized, or CCA Copper Salt treated for rot resistance and rated for Full Moisture Contact. Install where needed.

### **2.3 MISCELLANEOUS MATERIALS**

- A. Fasteners: Provide as required by applicable codes and as otherwise indicated.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION - GENERAL**

- A. Arrange work to use full length pieces except where lengths would exceed commercially available lengths. Discard pieces with defects that would lower the required strength or appearance of the work.
- B. Cut and fit members accurately. Install plumb and true to line and level.
- C. Fasten carpentry in accordance with applicable codes and recognized standards.
- D. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

### **3.2 MISCELLANEOUS CARPENTRY**

- A. Provide miscellaneous blocking, nailers, grounds, and framing as shown and as required for support of facing materials, fixtures, specialty items, and trim. Cut and shape to the required size. Provide in locations required by other work.
- B. Use countersunk fasteners appropriate to applied loading.

End of Section 06100

SECTION 07533 - THERMOPLASTIC COPOLYMER MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
  - 1. Removal of existing roofing layers down to existing metal deck.
  - 2. Cleaning of metal deck suitable for vapor barrier adhesion.
  - 3. Replacement of any deteriorated metal deck per unit price allowance.
  - 4. Installation of vapor barrier / temporary membrane to metal deck.
  - 5. Installation of mechanically attached insulation initial layer over vapor barrier.
  - 6. Installation of adhesively attached secondary insulation layer.
  - 7. Installation of adhesively attached Copolymer PVC-Kee membrane sheet roofing.
  - 8. Accessories including overflow replacement scuppers, leaderheads and downspouts.
  - 9. Installation of stainless steel fascia system

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Related Specification Sections:
  - 1. Section 02072 - Minor Demolition (Roofing Removal)
  - 2. Section 05515 - Exterior Aluminum Wall Ladder
  - 3. Section 06100 - Carpentry
  - 4. Section 07620 - Flashings, Leaderheads & Downspouts.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Install sheet membrane roofing and base flashing that are watertight; will not permit the passage of liquid water; and will withstand wind loads, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.
- C. FM Listing: Provide roofing system and that meets **equivalent** uplift pressure restraint of FM **Windstorm Classification: Class 1-90** for wind uplift restraint, and Edge Fascia uplift restraint for 120 mph winds.

1.4 SUBMITTALS

- A. Product Data: For each type of roofing product specified. Include data substantiating that materials comply with requirements.
  - 1. Roofing System: Submittal required.
  - 2. Vapor barrier / temporary roofing membrane Submittal required.
  - 3. Insulation System: Flat stock and tapered, Submittal required.
  - 4. Wall Ladder: Submittal required.
  - 5. Fascia system: Submittal required.
- B. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install specified roofing system.

- C. Warranty: **Attach to Bid** as Attachment a sample copy of **standard roofing system manufacturer's warranty stating obligations, remedies, limitations, and exclusions of warranty.**

### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to perform work of this Section who has specialized in installing roofing similar to that required for this Project and who is approved, authorized, or licensed by the roofing system manufacturer to install manufacturer's product.
- B. Preinstallation Conference: Before installing roofing system, conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings." Notify participants at least 5 working days before conference.
1. Meet with Owner; Architect; Owner's insurer, if applicable; roofing Installer; roofing system manufacturer's representative; deck installer, if applicable; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
  3. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  4. Review loading limitations of deck during and after roofing.
  5. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing.
  6. Review governing regulations and requirements for insurance, certificates, and inspection and testing, if applicable.
  7. Review temporary protection requirements for roofing system during and after installation.
  8. Review roof observation and repair procedures after roofing installation.
  9. Review site setup location for material storage, dumpster placement, vehicle parking, and school hours for drop-off and pick-up for non-interference.
  10. Document proceedings, including corrective measures or actions required, and furnish copy of record to each participant.

### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid materials from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

### 1.7 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with roofing work only when existing and forecasted weather conditions permit roofing to be installed according to manufacturers' written instructions and warranty requirements.

## 1.8 WARRANTY

- A. General Warranty: The warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Standard Roofing Manufacturer's Warranty: Submit a written warranty, no dollar limitation, signed by roofing system manufacturer agreeing to promptly repair leaks resulting from defects in materials or workmanship for the following warranty period:
  - 1. **Warranty Period: 20 years.**
  - 2. Copies of the sample warranty to be attached to Bid as a required Bid Submittal.

## PART 2- PRODUCTS

### 2.1 MANUFACTURERS

- A. Available roofing membrane Manufacturers: Subject to compliance with requirements, Roofing Systems Companies (manufacturers) offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Polyester Reinforced Proprietary Polymeric Compound Thermoplastic Sheet Membrane:
    - a. Carlisle Syntec (KEE PVC) Systems.
    - b. Duro-Last (Duro-last EV)[KEE] Roofing.
    - c. Flex Roofing (Evaloy) Systems.
    - d. GAF "Everguard PVC XK with Evaloy" System.
    - e. Johns Manville (Evaloy) Tri-Polymer Membrane System.
    - f. Siplast, Parasolo PVC KEE Membrane System
    - g. Soprema, USA "Flagon PVC (Evaloy) Membrane System.
    - h. Versico (Versiflex-E KEE HP) Roofing Systems.
- B. Acceptable Alternate Roofing Systems Companies:
  - 1. Fibertite by Seaman Corporation
  - 2. Bond Cote "Series 600 E Plus" Membrane Mechanically Attached System by Bondcote Roofing Systems.
  - 3. Any other company private labeling the Cooley C3 Membrane and system, will be considered for approval prior to Bidding.

### 2.2 COMPOUNDED THERMOPLASTIC SHEET

- A. Compounded Thermoplastic Sheet: Uniform, polyester-reinforced flexible sheet compounded from not less than 50 percent PVC resins and plasticizers, stabilizers, fillers, and pigments, of the following material, thickness, backing, exposed face color, and physical properties, containing "**Dupont Evaloy**" alloy plasticizer:
  - 1. Sheet Material: **Copolymer alloy.**
  - 2. Sheet Thickness: nominal **60 mils**, minimum 57.
  - 3. Backing: No backing.
  - 4. Exposed Face Color: **White.**

5. Physical Properties: Provide compounded thermoplastic sheets with the following properties as determined per ASTM test method indicated:
  - a. Breaking Strength: 275 lbf/in. 48 kN/m; ASTM D 751, Procedure A.
  - b. Elongation at Break: 25 percent; ASTM D 751.
  - c. Tearing Strength: 90 lbf/400 N minimum; ASTM D 751, Procedure B.
  - d. Seam Strength: 75 percent, minimum, of breaking strength of unseamed sample; ASTM D 751, Procedure B.
  - e. Resistance to Heat Aging: 90 percent retention of breaking strength and elongation at break after 56 days at 176 deg F/80 deg C or after 28 days at 185 deg F/85 deg C; ASTM D 3045.
  - f. Low-Temperature Bend: Pass at minus 40 deg F minus 40 deg C; ASTM D 2136.
  - g. Accelerated Weathering Test: No cracking or crazing after 5000 hours; ASTM D 4434.
  - h. Linear Dimension Change: 0.5 percent maximum after 6 hours at 176 deg F/80 deg C; ASTM D 1204.
  - i. Water Absorption: Less than 3 percent mass change after 168 hours' immersion at 158 deg F/70 deg C; ASTM D 570.

### **2.3 AUXILIARY MATERIALS**

- A.** General: Furnish auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing material.
  1. Furnish liquid-type auxiliary materials that meet VOC limits of authorities having jurisdiction.
- B.** Sheet Flashing: Manufacturer's standard copolymer coated sheet flashing of same material, type, thickness, and color as sheet copolymer membrane.
- C.** Bonding Adhesive: Manufacturer's standard bonding adhesive.
- D.** Insulation Attachment Adhesive:
  1. Olybond 500 or Manufacturers required.
- E.** Metal Termination Bars: Manufacturer's standard stainless steel bars, approximately 1 inch 25 mm wide, roll formed and prepunched.
- F.** Fasteners: Stainless steel fasteners and metal or plastic plates meeting corrosion-resistance provisions of FM 4470, designed for fastening sheet to substrate, and acceptable to roofing system manufacturer.
- G.** Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, seam calk, termination reglets, and other accessories recommended by roofing system manufacturer for intended use.

### **2.4 METAL DECK (POTENTIAL REPLACEMENT)**

- A.** 22 Ga G90 galvanized, prefinished painted bottom finish, color: white.
  1. Profile to match existing.
  2. Replacement as required per unit price allowance, following Architect's inspection and concurrence.

### **2.5 VAPOR BARRIER**

- A. Air and Vapor Barrier / Temporary roof, 40 mil composite membrane consisting of:
  - 1. Suitability for mechanically attached initial insulation layer.
  - 2. 35 mil self-adhering rubberized asphalt laminated to 5 mil woven polypropylene film.
  - 3. One-piece silicone poly release liner applied to the SBS adhesive (prevent material from bonding to itself).
    - a. Properties:
      - 1) Tensile Strength: 250 psi - ASTM D412
      - 2) Elongation: 250% - ASTM D412
      - 3) Peel adhesion: 5 lbs/in - ASTM D903
      - 4) Puncture resistance: 60 lbs - ASTM E154
      - 5) Permeability: 0.015 perms - ASTM D1970
      - 6) Air Permeance: 0.000Lm<sup>2</sup> @ 75Pa - ASTM E2178
      - 7) Shelf Life: 1 year
    - b. Adhesive/Primer as required by vapor barrier manufacturer.

## 2.6 INSULATION MATERIALS

- A. Provide manufacturer's standard preformed insulation units, sized for proper fit in indicated applications.
- B. **Insulation A:** Polyisocyanurate Board Insulation or other as required by Roof Manufacturer: Manufactured from glass-fiber-reinforced (faced) polyisocyanurate foam:
  - 1. As suitable and acceptable to Single Ply Membrane Manufacturer.
  - 2. Comply with FS HH-I-1972/1, Type 1, Class 2 requirements.
  - 3. Facings: Laminated facings to each face of boards, suitable for adhesive attached secondary insulation layer and membrane system.
  - 4. Aged r-values (per inch): - (Long Term Thermal Resistance (LTTR) 15 Year time weighted average value).
    - a. **R =5.6 per inch** assumed and used by Architect for all R Value calculations.
  - 5. Thickness:
    - a. **Uniform Thickness** per drawings
    - b. **Tapered Thickness** used as drainage cricket per drawings.

## 2.7 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with sheet roofing material.
- B. Fasteners: Stainless steel fasteners and metal or plastic plates designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

## 2.8 INSULATION AND COVER BOARD ADHESIVE

- A. Olybond 500 BA or roof manufacturer recommended two-component, construction grade, low-rise, expanding polyurethane designed for bonding insulation to insulation and roofing membrane to insulation.

## 2.9 OTHER ACCESSORIES

- A. Stainless steel sheet metal, 24 gage, suitable for fabricated leaderheads and downspouts. Mill finish color.
- B. Downspout mounting brackets: Stainless steel 24 Ga with stainless steel masonry screw attachment.
- C. Manufactured Fascia:



1. Model "Anchor-Tite" AF-70 (7 inch face height) by Metal-Era, or prior Architect approved equal.
  - a. Parapet wall use.
  - b. Minimum wind speed tested at 120 mph.
  - c. Anchor bar: 20 ga Stainless Steel, 12 foot lengths, (1/4 in space between ends), slotted fastening holes.
  - d. Attachment screws, stainless steel, and spacings as specified by manufacturer.
  - e. Cover: 24 ga Stainless Steel mill finish.
  
- D. Gutter and Downspouts: See Section 07620.

## **PART 3- EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions under which roofing will be applied, with Installer present, for compliance with requirements.
  1. Any deteriorated existing metal deck to be replaced using stainless steel screw attachment in 7 per 36" bearing pattern.
  
- B. Verify that roof openings and penetrations are in place and set and braced and that roof drains are properly clamped into position.
  
- C. Verify that wood nailers are in place and secured and match thicknesses of insulation required.
  
- D. Do not proceed with installation until unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- A. **Owner Occupancy:** Owner shall maintain use of building during the construction period.
  
- B. Removal and Disposal: Remove existing membrane roofing, existing ISO insulation down to existing metal deck; and dispose of appropriately. Pay all fees associated with disposal.
  
- C. Clean substrate of dust, debris, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
  
- D. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of the roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

### **3.3 VAPOR BARRIER INSTALLATION**

- A. Verify metal deck is completely dry before proceeding.
  
- B. Verify all materials are within allowable temperature ranges as specified by manufacturer.
  
- C. Install Adhesive/Primer per manufacturer.
  
- D. Apply membrane from low to high points in a shingle manner so laps will shed water.
  
- E. Lap edges to be a minimum of 2 inches.
  
- F. Stagger end laps.
  
- G. Position membrane to avoid fish-mouths and wrinkles.

- H. Roll membrane immediately after installation with a 100-150 lb roller wrapped in a resilient material.
- I. Hand roll when applying to a vertical surface.
- J. Follow manufacturer instructions regarding T lap sealant and rolling.

### **3.4 INSULATION INSTALLATION**

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under succeeding flat stock insulation areas to conform to slopes (drainage cricket areas) indicated and to Shop Drawings.
- D. Install insulation under area of roofing membrane to achieve required thickness. Install required thickness in 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch 6 mm with insulation.
  - 1. Cut and fit insulation within 1/4 inch 6 mm of nailers, projections, and penetrations.
- G. Attach initial layer (mechanically) Insulation: Install initial base layer of insulation and secure to deck using mechanical stainless steel fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type indicated.
  - 1. Fasten insulation according to requirements of FM's "Approval Guide" for specified Windstorm Resistance Classification and the insulation and roofing system manufacturers' written instructions.
  - 2. Fasten insulation according to the insulation and roofing system manufacturers' written instructions to meet specified wind-uplift requirements, but not less than 1 fastener for each 4 sq. ft. 0.38 sq. m and at least 5 fasteners per board.
  - 3. Fasten insulation according to the insulation and roofing system manufacturers' written instructions.
- H. Attach secondary layer (adhesively) insulation: Install secondary layer of insulation and secure to deck using full spray or beads with spacing as specified by the manufacturer.

### **3.5 ADHESIVELY FASTENED SHEET MEMBRANE INSTALLATION**

- A. Install thermoplastic sheet over area to receive roofing according to roofing system manufacturer's written instructions. Unroll sheet and allow to relax for a minimum as required by the roofing manufacturer.
- B. Sweep and clean loose debris from the deck / substrate.
- C. Position membrane over the substrate. Fold membrane sheet back onto itself so half of the underside of the membrane is exposed.
- D. Apply adhesive in accordance with the manufacturer's published instructions, to the exposed underside of the membrane and the corresponding substrate areas. Do not apply adhesive

along the splice edge of the membrane to be hot air welded over the adjoining sheet. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.

1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded section of the membrane sheet immediately after rolling the membrane into the adhesive with a soft bristle push broom to achieve maximum contact.
  2. Fold back the unbonded half of the sheet and repeat the bonding procedures.
- E.** Position adjoining sheet to allow a minimum overlap of 2 inches to provide a minimum of 1-1/2" hot air weld.
- F.** Continue to install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches and install bonding adhesive as described above.
- G.** Mechanically fasten sheet securely at terminations, penetrations and perimeter of roofing, as prescribed in manufacturer's approved instructions .
- H.** Apply roofing sheet with side laps shingled with slope of roof deck where possible.
- I.** Spread sealant bed over deck drain flange at deck drains and securely seal roofing sheet in place with clamping ring.
- J.** Install sheet and auxiliary materials to tie in to existing roofing as needed to maintain nightly dry conditions.

### **3.6 SEAM INSTALLATION**

- A.** Clean seam areas, overlap sheets, and weld side and end laps of sheets and flashings according to manufacturer's written instructions to ensure a watertight seam installation. Weld seam as follows:
1. Weld Method: Hot air, as standard with roofing system manufacturer.
- B.** Test lap edges with probe to verify seam weld continuity.
- C.** Apply seam caulk to seal cut edges of sheet membrane, as required by Manufacturer.
- D.** Repair tears, voids, and lapped seams in roofing that does not meet requirements.

### **3.7 FLASHING INSTALLATION**

- A.** Install sheet flashings and preformed flashing accessories and adhere to substrate according to roofing system manufacturer's written instructions.
- B.** Apply bonding adhesive to substrate and underside of flashing sheet at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C.** Flash penetrations and field-formed inside and outside corners with sheet flashing as recommended by manufacturer.
- D.** Clean seam areas, overlap sheets, and firmly roll flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
- E.** Test lap edges with probe to verify seam weld continuity. Apply lap sealant and seal exposed edges of sheet flashing terminations.

- F. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.
- G. Membrane coated metal flashing (secondary emergency roof overflow drains) fabricate to fit steel outer sleeve thru existing block and brick veneer exterior parapet wall.

### **3.8 FASCIA INSTALLATION**

- A. Install in accordance with manufacturer's instructions, as located on the drawings.
- B. Remove protective film immediately before installation.
- C. Install to provide watertight termination at leading edge of parapet wall.
- D. Install to allow for thermal movement, leaving 1/4" between ends butt joints of extruded bar.
- E. Apply joint sealants in accordance with manufacturer's instructions.
- F. Adjusting and cleaning:
  - 1. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
  - 2. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by the Architect.
  - 3. Clean materials promptly after installation in accordance with manufacturer's instructions.
  - 4. Do not use harsh cleaning materials or methods that could damage finish.

### **3.9 WALK TREADS**

- A. Install walk treads at all high traffic paths as shown on the Architect's roof plan (ladders).
- B. Weld or otherwise attach walk treads in accordance with the manufacturer's instructions.

### **3.10 DAILY SEAL**

- A. When the completion of flashings and terminations are not achieved by the end of the work day, perform a daily seal to temporarily close the membrane to prevent water infiltration.
- B. Install the daily seal in accordance with the manufacturer's instructions.

### **3.11 FIELD QUALITY CONTROL**

- A. Verify field strength of seams a minimum of twice daily, according to manufacturer's written instructions, and repair seam sample areas.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
  - 1. Notify Architect or Owner 48 hours in advance of the date and time of inspection.

### **3.12 PROTECTING AND CLEANING**

- A. Protect sheet membrane roofing from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing that does not comply with requirements, repair substrates, reinstall roofing, and repair sheet flashings to a condition free of damage and deterioration at the time of Substantial Completion and according to warranty requirements.

- C.** Clean overspray and spillage from adjacent construction using cleaning agents and procedures required by manufacturer of affected construction.

**3.13 ROOFING INSTALLER'S WARRANTY**

- A.** Submit Warranty according to earlier provisions.

END OF SECTION 07533

**SECTION 07620 - SHEET METAL FLASHING, LEADERHEADS & DOWNSPOUTS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A.** Section Includes:
  - 1. Leaderhead collection boxes at wall scuppers.
  - 2. Downspouts.
- B.** Related section:
  - 1. Fascia System in stainless steel see Section 07533

**1.2 REFERENCES**

- A.** American Iron and Steel Institute:
  - 1. Stainless Steel Suggested Practices for Roofing, Flashings, Copings Fascias, Gravel Stops and Drainage (A Designers handbook Series No 9031), as distributed by Nickel Institute.
- B.** Sheet Metal and Air Conditioning Manufacturer's Association International (SMACNA) - Architectural Sheet Metal Manual.

**1.3 SUBMITTALS**

- A.** Submittals for Review:
  - 1. Shop Drawings: Show locations, types and thicknesses of metal, profiles, dimensions, fastening methods, provisions for expansion and contraction, and joint details.

**1.4 QUALITY ASSURANCE**

- A.** Fabricator and Installer Qualifications: Minimum 2 years experience in work of this Section.

**PART 2- PRODUCTS**

**2.1 MATERIALS**

- A.** Stainless Steel Sheet:
  - 1. AISI Type 302, (18% Chromium and 8% Nickel).
  - 2. Thickness: See drawings for gage per location used.
  - 3. Finish: AISI No 4, bright appearance with a visible grain which prevents mirror reflection.

**2.2 ACCESSORIES**

- A.** Fasteners: Stainless steel with neoprene gasketed washers where exposed.
- B.** Joint Sealers: as required.

**2.3 FABRICATION**

- A.** Fabricate components in accordance with drawings and if not detailed by SMACNA Manual.
- B.** Profiles:
  - 1. Leaderheads: per drawings.
  - 2. Downspouts: 4" x 3"
  - 3. Fabricate backer plate, straps and downspout outlets in profile to suit downspouts.

- C. Fabricate corners in single units with minimum 3/4 inch lap long legs for welded corners.
- D. Form sections accurate to size and shape, square and free from distortion and defects.
- E. Provide for thermal expansion and contraction in sheet metal as needed:
  - 1. Joint width: Consistent with types and sizes of materials, minimum width 3/4 inch.
- F. Unless otherwise indicated, provide minimum 3/4 inch wide flat lock seams; lap in direction of water flow.
- G. Fabricate cleats and starter strips of same material as sheet metal.

## **PART 3- EXECUTION**

### **3.1 INSTALLATION**

- A. Install flashing and sheet metal as indicated and in accordance with SMACNA Manual.
- B. Install cleats and starter strips before starting installation of sheet metal.
- C. Secure flashings with concealed fasteners where possible.
- D. Fit flashings tight, with square corners and surfaces true and straight.
- E. Seam and seal field joints.
- F. Separate dissimilar metals with bituminous coating or non-absorptive gaskets.
- G. Reglets:
  - 1. Install reglets true to line and level. Seal top of surface mounted reglet with joint sealer.
  - 2. Install flashings into reglets to form tight fit. Secure with lead or plastic wedges at 9 inches on center maximum. Seal remaining space with joint sealer.
- H. Downspouts:
  - 1. Secure with straps spaced maximum 8 feet on center and within 2 feet of ends and elbows.
  - 2. Flash downspouts minimum 2 inches into conductor heads and fasten.
  - 3. Flash upper sections into lower sections minimum 2 inches at joints; fasten sections together.
- I. Apply joint sealers as required.

### **3.2 CLEANING**

- A. Clean sheet metal; remove slag, flux, stains, spots, and minor abrasions without etching surfaces.

END OF SECTION