

ROOF REPLACEMENT SPECIFICATIONS

Prepared For:

**PLYMOUTH TOWNSHIP FIRE STATION NO. 3
PLYMOUTH, MICHIGAN**

Owner:

Charter Township of Plymouth
9955 North Haggerty Road
Plymouth, Michigan 48170

Roofing Consultant:

Roofing Technology Associates, Ltd.
38031 Schoolcraft
Livonia, Michigan 48150
RTA Project No. 11-053

September, 2011

Revised on September 28, 2011

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CHARTER TOWNSHIP OF PLYMOUTH
ADVERTISEMENT FOR BIDS
FIRE STATION #3
ROOFING PROJECT

Sealed proposals will be received for the construction of the Fire Station #3 Roofing Project by the Charter Township of Plymouth as Owner, until 3:00 P.M. Local Time on Friday, October 14, 2011 at the Office of the Clerk, Plymouth Township Hall, 9955 N. Haggerty Road, Plymouth, Michigan 48170 at which time and place all bids will be publicly opened and read.

Bidders shall review and comply with the instructions to bidders.

Description of Work

The project scope consists of roof and gutter replacement at Fire Station #3 located at the northeast corner of Beck Road and North Territorial Road in Plymouth Township.

Plans and Specifications may be examined at the Clerk's Office, Plymouth Township Hall, 9955 N. Haggerty Road, Plymouth, Michigan 48170 or online at www.plymouthtwp.org on or after September 15, 2011. Drawings and Specifications can be shipped by U.P.S. ground for no fee.

Proposals submitted by Bidders who have been debarred, suspended, or made ineligible by any Federal Agency will be rejected.

Each bidder agrees to waive any claim it has or may have against the Owner, the Architect/Engineer, Roofing consultant, and his or her respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

Each bid proposal shall be submitted on the proposal forms provided. No bid security is required. No bid may be withdrawn after scheduled closing time for receiving bids for sixty (60) days.

The successful bidder may be required to furnish satisfactory Performance, Labor and Material, and Maintenance and Guarantee Bonds.

The Charter Township of Plymouth reserves the right to reject all bids and to waive irregularities in bidding.

No Proposal will be received unless made on bid forms furnished and delivered to the Township Clerk on or before 3:00 p.m., Local time, October 14, 2011.

A pre-bid meeting will be held on October 5, 2011 at 10:00 a.m. at the project site with the Roof Consultant and the Owner's Representative to review the scope of work and project conditions. It is recommended that a representative of the bidding contractor attend this meeting.

Joseph Bridgman, MMC
Township Clerk

Published in the Plymouth Observer, Sunday October 2, 2011 and Thursday October 5, 2011.

SECTION 00200 - INSTRUCTIONS TO BIDDERS

THE PROJECT

- A. In accordance with these instructions, the bidder is requested to submit a Bid for project and Contract work indicated in the Roof Replacement Specifications.
- B. Each bidder is referred to the Advertisement for Bids for this project, which includes instructions and requirements for bidders in addition to those included in this section.

CONTRACTS

- A. The Owner will enter into a single lump sum Contract with the selected bidder.

SUBMISSION OF BIDS

- A. Place for Receiving Bids
 - 1. In accordance with the information provided in the Advertisement for Bids.
- B. Date for Receiving Bids
 - 1. In accordance with the information provided in the Advertisement for Bids.

BIDDERS REPRESENTATIONS

- A. Each bidder by making his Bid represents that:
 - 1. He has read, understands, and makes his Bid in accordance with the Bidding Documents.
 - 2. He has visited the site, has familiarized himself with the local conditions under which the Work is to be performed and has correlated his observations with the requirements of the proposed Bidding Documents.
 - 3. His Bid is based upon the materials, systems, and equipment required by the Bidding Documents without exception.

INSPECTION OF SITE

- A. Before submitting his Bid, each bidder shall personally inspect the site of the proposed work to arrive at a clear understanding of the conditions under which the work is to be done.
- C. Each bidder shall be held to have compared the premises and the site with the Drawings and Specifications, and to have satisfied himself as to the conditions of the premises, the existing obstructions, and any other conditions affecting the completion of his work, all before the delivery of his proposal.
- D. No allowances or extra considerations on behalf of any bidder will be permitted subsequently by reason or error or oversight on the part of the Contractor, or on account of interferences by the activities of the Owner.

BIDDING DOCUMENTS

- A. Bidding Documents which will be issued for the use of bidders and upon which all proposals are to be based, consist of those listed in these specifications.
Documents consist of:
 - 1. Plans and specifications prepared by Roofing Technology Associates, Ltd.

- B. In the event that additional documents are required to explain revisions which are made during the bidding period or to give additional information to the bidders, the Roof Consultant will prepare such documents in the form of an Addendum with accompanying drawings, if required, and will send copies of the same to all bidders, prior to the date for receipt of proposals. All proposals are to include the work described and indicated on such additional documents.
- C. Interpretation or Correction of Bidding Documents
 - 1. Bidders shall promptly notify the Roof Consultant of any ambiguity, inconsistency or error which they may discover upon examination of the bidding documents or of the site and local conditions of the work.
 - 2. Any interpretation, correction or change of the documents will be made by the Roof Consultant by Addendum. Interpretations, corrections or changes of the bidding documents made in any other manner will not be binding and bidders shall not rely upon such interpretations, corrections and changes.
 - 3. All questions or inquiry relative to this project shall be directed to: Ronald Kinne, Project Manager, Roofing Technology Associates, Ltd. at (734)-591-4444.

BIDDER'S OPTIONS

- A. For products specified only by reference standard, select product meeting that standard by any manufacturer.
- B. For products specified by naming several products or manufacturers, select any one of the products and manufacturers named which comply with the technical specifications.
- C. For products specified by naming several products or manufacturers and stating "or approved equivalent" or similar wording, submit a request for approval for review and approval by the Roof Consultant.
- D. For products specified by naming only product and manufacturer, there is no option and no substitutions will be allowed.

SUBSTITUTIONS

- A. Base Bid shall be in accordance with these Contract Documents.
- B. No substitution of products or roofing systems will be allowed on this project, unless a product or roofing system specified is no longer manufactured.
- C. In the event that a product or roofing system is no longer manufactured, contact the Roof Consultant. An Addendum will be issued with additional documents for acceptable alternate products or roofing systems.

QUALIFICATIONS

- A. Evidence of Qualifications
 - 1. To demonstrate qualification for performing the Work of this Contract, bidders are required to submit written evidence of previous experience and license to perform work in the State.

BIDDING PROCEDURES

- A. Form of Bids
 - 1. Bid forms are furnished within the Project Specifications. Each bidder shall

submit his bid in duplicate and retain one copy for his files.

2. Bids must be filled out fully and correctly and submitted only on Bid Forms provided. Bids in any other form will be rejected.
 3. All information required to be provided on the Bid Form shall be typewritten or printed manually in ink with a handwritten signature where noted.
- B. Bid Security
1. No bid security is required for this bid.
- C. Modification or Withdrawal of Bid
1. A Bid may not be modified, withdrawn or canceled by the bidder during the stipulated time period following the time and date designated for the receipt of Bids, and bidder so agrees in submitting his bid.
 2. Bidder may withdraw his proposal at any time prior to the time set for opening of proposals.

CONSIDERATION OF BIDS

- A. Opening of Bids
1. The properly identified bids received on time will be opened and read publicly as stated in the Advertisement for Bids.
- B. Acceptance of Bid (Award)
1. The Owner reserves the right to accept or reject any total bid, or part thereof, and to award the total Contract or part thereof to other than the low bidder. All decisions regarding Contract awards will be final.
 2. The Owner shall have the right to accept Alternates in any order or combination, and to determine the low bidder on the basis of the sum of the Base Bid and the Alternates accepted.
- C. Notice of Award
1. The Contract shall be deemed as having been awarded when formal notice of acceptance of his Proposal has been duly served upon the intended awardee by an officer or agent of the Owner duly authorized to give such notice. The Contract Date shall be the date of this notice of acceptance.
 2. The bidder to whom the Contract is awarded by the Owner shall, within seven (7) days after Notice of Award and/or receipt of Agreement forms from the Owner, sign and deliver to the Owner all required copies.
- D. Time of Starting and Completion
1. The successful bidder shall furnish insurance and commence active work on the Project within ten (10) days after receipt of notice of award and shall complete the work within the time stated in the Contract.

E. Work Week

1. The bidder, if awarded a Contract, shall be required to establish the work week and hours of work as required to properly man the project, maintain the progress schedule, and complete the work within the time stated in the Contract. The Contractor shall provide and pay for any overtime necessary to complete his work within the agreed time, with no change in the Contract Sum or additional costs to the Owner.

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

- A. Performance bond and labor and material bonds may be required. The Owner is asking for the cost of providing the bonds appear on a separate line item as an alternate price. Please see the 00410 - Bid Form and Section 01230 - Alternates.
- B. Time of Delivery and Form of Bonds
 1. Bidders are required to furnish bonds executed on AIA Document A312, with the amount shown for each part equal to 100 percent of the total amount payable by the terms in the Contract. Premiums for such bonds shall be included as an alternate price.
 2. The bidder shall deliver the Bonds to the Owner not later than the date of execution of the Contract, or if the Work is commenced prior thereto in response to a Notice of Award, the bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be issued.

FORM OF CONTRACT BETWEEN OWNER AND CONTRACTOR

- A. A Contract for the Work will be written on the Standard AIA Document A107, Abbreviated Form of Agreement Between Owner and Contractor for Construction Projects of Limited Scope where the basis of payment is a stipulated sum.

PERMITS

- A. Accepted bidder will be required to obtain applicable building permits for the work of this project. There is no cost for the permits.

END OF INSTRUCTIONS TO BIDDERS

SECTION 00410 - BID FORM

Name of Bidder _____

FIRM NAME AND ADDRESS OF BIDDER - This bid is submitted in the name of:

FIRM NAME _____

BUSINESS ADDRESS _____

TELEPHONE NUMBER _____

BY _____

(SIGNATURE)

TITLE _____

SIGNED THIS _____ DAY OF _____, 20_____

Name of Bidder _____

The undersigned in submitting this proposal agrees as follows:

The entire work shall subject to the requirements of the General Conditions of the Contract contained in and forming a part of AIA Document A-107, (2007 Edition) Abbreviated Form of Agreement between Owner and Contractor for Construction Projects of Limited Scope.

Prior to execution of the Agreement for this work, the Contractor shall furnish the Owner with copies of Certificates of Insurance.

Start Date

The start date for beginning reroofing operations for this project must be negotiated with the Township.

Time of Completion

The undersigned agrees to commence work within 10 days of award of the Contract and to fully complete the total project within 30 calendar days.

Failure to complete the Contract within the specific time parameters shall result in a 1% penalty per week of the total Contract price.

Withdrawal of Bid

The undersigned agrees that this bid may not be withdrawn for a period of sixty (60) days after the bid opening date or receipt thereof.

Rejection of Bid

The undersigned understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

Liability

The Contractor shall and does assume liability under the terms of the Worker's Compensation Law of the State in which the work is being performed.

Contractor assumes all liability for injury to persons or damage to, or loss of property of (a) Contractor, his agents or employees, (b) Owner, its agents or employees, or members and (c) any other person, firm or corporation arising in any way directly or indirectly out of the performance of this Contract whether or not such injury, damage, or loss is due to the negligence of the Contractor, its agents or employees. This foregoing assumption of liability by Contractor shall include, without limiting the generality of the foregoing, any injury, damage, or loss arising out of the operation of motor vehicles. This assumption of liability by Contractor shall also include, without limiting the generality of the foregoing, any injury, damage or loss (1) arising out of the negligence of Contractor, (2) arising out of the joint or combined negligence of Contractor and Owner, (3) arising out of the negligence of a third party or parties and Contractor, or (4) without limiting in any way the foregoing, arising in any way, directly or indirectly out of the conduct or occurrence not fully limited to the separate sole negligence of the Owner as proven by Contractor or third party.

Should the Owner or an agent or employee of the Owner or members be made a party to any suit or proceeding, even though such suit or proceeding is groundless, false or fraudulent, arising out of injury, damage, or loss for which the Contractor assumes liability under this Contractor, the Contractor will defend such suit or proceeding and shall indemnify and save harmless the Owner, its agents or employees, of and from all liability loss, expenses, judgments (including interest thereon), including Attorney's fees.

Since Contractor hereunder shall be an independent Contractor and not agent, servant, or employee of Owner, Contractor assumes full responsibility for compliance with any and all Federal, State, or municipal laws, ordinances, and regulations, including (but not limited to) those having to do with labor, wages and benefits, or taxes and duties collectible from employees under all applicable provisions of the law.

Insurance

Unless otherwise specified, the Contractor shall, before commencing work hereunder, procure and thereafter maintain policies of insurance satisfactory to the Owner covering the liabilities assumed above in the following minimum amounts.

Property Damage	\$2,000,000 (each accident)
Bodily Injury	\$ 1,000,000 (each person)
Worker's Compensation Insurance	All liabilities imposed by Compensation statute
Employers Liability Insurance	\$ 100,000
Contractual Liability Insurance	\$ 500,000
Completed Operations Insurance	\$ 500,000
Owned, Hired and Non-Ownership Vehicle Bodily Injury and Property Damage to the following Limits:	
- bodily injury	\$ 1,000,000 (each person)
- accidental death	\$1,000,000 (each accident)
- property damage	\$2,000,000 (each accident)

The Contractor agrees to file with the Owner's Agent before commencing work hereunder, copies of policies of such insurance which shall contain by endorsement, the specific liabilities assumed above, together with certificates of insurance which shall contain a provision that no change in the amount of said insurance, or termination thereof, shall take place without previous 10 days written notice to the Owner's Agent and its written consent to such change or termination.

Name of Bidder _____

TO: Charter Township of Plymouth
Office of the Clerk
Plymouth Township Hall
9955 N. Haggerty Road
Plymouth, Michigan 48170

PROPOSAL FOR: Roof Replacement at:
Plymouth Township Fire Station No. 3
13600 Beck Road
Plymouth, Michigan

The undersigned having examined the Bidding Documents, General Conditions, Technical Specifications and Plans, and being familiar with all conditions affecting this proposed Project, hereby propose to furnish all labor, materials, tools, equipment, utilities, transportation or other facilities and services necessary to perform and complete the construction of the proposed project in accordance with the Bidding Documents, for the sums and under the conditions as follows:

BASE BID - The undersigned agrees to the performance of the Work for the designated building for the Base Bid sum of:

_____ Dollars (\$ _____)

Base Bid Sum includes _____ square feet of roof replacement.

Estimated Calendar Days to Achieve Substantial Completion: _____ days.

ALTERNATE PRICES - The undersigned agrees that at the Owner's discretion, the Base Bid Sum may be altered as follows if the Alternate Prices indicated and defined in the Alternates Section and elsewhere in the Bidding Documents are to be executed. Failure to bid upon requested Alternate Prices shall indicate no change in the Base Bid Sum.

ALTERNATE NO. 1 - Performance, Labor and Material Bonds

Add the sum of:

_____ Dollars (\$ _____)

lump sum

UNIT PRICES - The undersigned agrees that at the Owner's discretion, the Base Bid Sum may be altered as follows if the Unit Prices indicated and defined in the Unit Prices Section and elsewhere in the Bidding Documents are to be executed. Failure to bid upon requested Unit Prices shall indicate no change in the Base Bid Sum.

UNIT PRICE NO. 1 – WOOD NAILERS & PLYWOOD

Add the sum of:

1" x 4" _____ Dollars (\$ _____)

per lineal foot

Plymouth Township
Fire Station No. 3
Roof Replacement

1" x 6" _____ Dollars (\$ _____)
per lineal foot

1" x 8" _____ Dollars (\$ _____)
per lineal foot

2" x 4" _____ Dollars (\$ _____)
per lineal foot

2" x 6" _____ Dollars (\$ _____)
per lineal foot

2" x 8" _____ Dollars (\$ _____)
per lineal foot

3/8-INCH THICK ROUGH SAWN PLYWOOD
_____ Dollars (\$ _____)
per square foot

15/32-INCH THICK CDX PLYWOOD
_____ Dollars (\$ _____)
per square foot

5/8-INCH THICK CDX PLYWOOD
_____ Dollars (\$ _____)
per square foot

5/8-INCH THICK FIRE RETARDANT TREATED PLYWOOD
_____ Dollars (\$ _____)
per square foot

(For the above, the amount shall be in both words and figures with the amount in words governing in the event of discrepancy.)

TAXES - The Contractor affirms that all Federal, State and local taxes of whatever character and description, including Sales and/or Use Tax on property to be transferred to the Owner, are included in this proposal.

END OF BID FORM

SECTION 00590 - CONTRACTING FORMS AND SUPPLEMENTS

PART 1 GENERAL

A AGREEMENT AND CONDITIONS OF THE CONTRACT

- 1 The Agreement and General Conditions are based on AIA A107. See attached copy.

B FORMS

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

- 2 Bond Forms:

Performance and Payment Bond Form: AIA A312.

- 3 Post-Award Certificates and Other Forms:

Schedule of Values Form: AIA G703.

Application for Payment Form: AIA G702 and G703.

- 4 Clarification and Modification Forms:

Change Order Form: AIA G701.

- 5 Closeout Forms:

Certificate of Substantial Completion Form: AIA G704.

C REFERENCE STANDARDS

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

DRAFT AIA[®] Document A107[™] - 2007

Standard Form of Agreement Between Owner and Contractor for a Project of Limited Scope

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

BETWEEN the Owner:
(Name, legal status, address and other information)

« »
« »
« »
« »

and the Contractor:
(Name, legal status, address and other information)

« »
« »
« »
« »

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

«MISC»
« »
« »

The Architect:
(Name, legal status, address and other information)

« »
« »
« »
« »

The Owner and Contractor agree as follows.

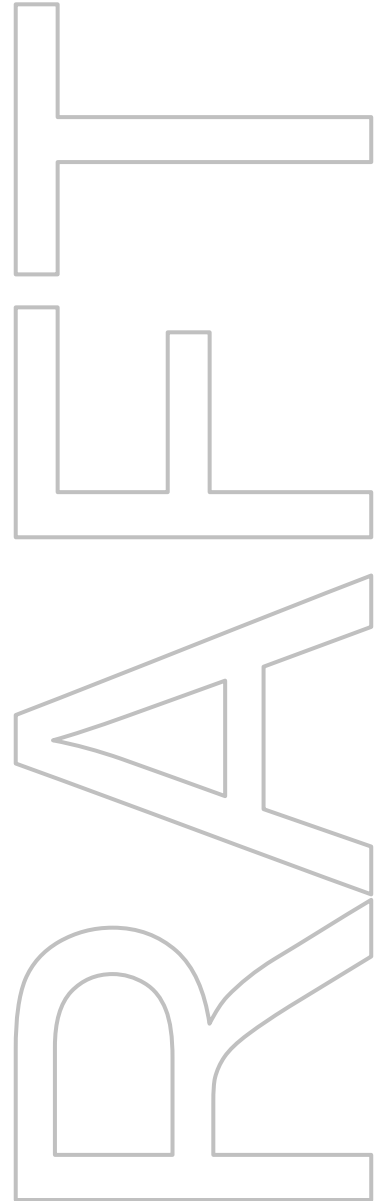
ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available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

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

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ARTICLE 1 THE WORK OF THIS CONTRACT

The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 2.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.
(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

<< >>

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

§ 2.3 The Contractor shall achieve Substantial Completion of the entire Work not later than () days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 3 CONTRACT SUM

§ 3.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

Stipulated Sum, in accordance with Section 3.2 below

Cost of the Work plus the Contractor's Fee, in accordance with Section 3.3 below

Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 3.4 below

(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)

§ 3.2 The Stipulated Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 3.2.1 The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.2.2 Unit prices, if any:

(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

Item

Units and Limitations

Price Per Unit (\$0.00)

§ 3.2.3 Allowances included in the stipulated sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item

Allowance

§ 3.3 COST OF THE WORK PLUS CONTRACTOR'S FEE

§ 3.3.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.3.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

<< >>

§ 3.4 COST OF THE WORK PLUS CONTRACTOR'S FEE WITH A GUARANTEED MAXIMUM PRICE

§ 3.4.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.4.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

<< >>

§ 3.4.3 GUARANTEED MAXIMUM PRICE

§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed << >> (\$ << >>), subject to additions and deductions by changes in the Work as provided in the Contract Documents. Such maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

(Insert specific provisions if the Contractor is to participate in any savings.)

<< >>

§ 3.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

<< >>

§ 3.4.3.3 Unit Prices, if any:

(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)

§ 3.4.3.4 Allowances included in the Guaranteed Maximum Price, if any:

(Identify and state the amounts of any allowances, and state whether they include labor, materials, or both.)

Item	Allowance

§ 3.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:

<< >>

ARTICLE 4 PAYMENTS

§ 4.1 PROGRESS PAYMENTS

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

§ 4.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

<< >>

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the << >> day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the << >> day of the << >> month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than << >> (<< >>) days after the Architect receives the Application for Payment. (Federal, state or local laws may require payment within a certain period of time.)

§ 4.1.4 Retainage, if any, shall be withheld as follows:

<< >>

§ 4.1.5 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located. (Insert rate of interest agreed upon, if any.)

<< >> % << >>

§ 4.2 FINAL PAYMENT

§ 4.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 the contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a guaranteed maximum price; and
- .3 a final Certificate for Payment has been issued by the Architect.

§ 4.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

<< >>

ARTICLE 5 DISPUTE RESOLUTION
§ 5.1 BINDING DISPUTE RESOLUTION

For any claim subject to, but not resolved by, mediation pursuant to Section 21.3, the method of binding dispute resolution shall be as follows:

(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.)

[<< >>] Arbitration pursuant to Section 21.4 of this Agreement

[<< >>] Litigation in a court of competent jurisdiction

[<< >>] Other (Specify)

<< >>

ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS

§ 6.1 The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 6.1.1 The Agreement is this executed AIA Document A107-2007, Standard Form of Agreement Between Owner and Contractor for a Project of Limited Scope.

§ 6.1.2 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 6.1.3 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

<< >>

Section	Title	Date	Pages

§ 6.1.4 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

<< >>

Number	Title	Date

§ 6.1.5 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are enumerated in this Article 6.

§ 6.1.6 Additional documents, if any, forming part of the Contract Documents:

- .1 Exhibit A, Determination of the Cost of the Work, if applicable.
- .2 AIA Document E201™-2007, Digital Data Protocol Exhibit, if completed, or the following:

<< >>

- .3 Other documents:

(List here any additional documents that are intended to form part of the Contract Documents.)

<< >>

ARTICLE 7 GENERAL PROVISIONS

§ 7.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 7.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be

construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

§ 7.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 7.4 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 7.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 7.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 7.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 7.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmission, unless otherwise provided in the Agreement or in the Contract Documents.

ARTICLE 8 OWNER

§ 8.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 8.1.1 The Owner shall furnish all necessary surveys and a legal description of the site.

§ 8.1.2 The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 8.1.3 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 8.2 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, or repeatedly fails to carry out the Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order is eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 8.3 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner, without prejudice to any other remedy the Owner may

have, may correct such deficiencies and may deduct the reasonable cost thereof, including Owner's expenses and compensation for the Architect's services made necessary thereby, from the payment then or thereafter due the Contractor.

ARTICLE 9 CONTRACTOR

§ 9.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 9.1.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 9.1.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.1, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents.

§ 9.1.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 9.2 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 9.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

§ 9.2.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

§ 9.3 LABOR AND MATERIALS

§ 9.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 9.3.2 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

§ 9.3.3 The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification.

§ 9.4 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear under normal usage.

§ 9.5 TAXES

The Contractor shall pay sales, consumer, use and other similar taxes that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 9.6 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 9.6.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as other permits, fees, licenses and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 9.6.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 9.7 ALLOWANCES

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Allowance amounts shall not include the Contractor's costs for unloading and handling at the site, labor, installation, overhead, and profit.

§ 9.8 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 9.8.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 9.8.2 The Contractor shall perform the Work in general accordance with the most recent schedule submitted to the Owner and Architect.

§ 9.9 SUBMITTALS

§ 9.9.1 The Contractor shall review for compliance with the Contract Documents and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Work shall be in accordance with approved submittals.

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

§ 9.10 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 9.11 CUTTING AND PATCHING

The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

§ 9.12 CLEANING UP

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus material from and about the Project.

§ 9.13 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 9.14 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 9.15 INDEMNIFICATION

§ 9.15.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 9.15.1.

§ 9.15.2 In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 10 ARCHITECT

§ 10.1 The Architect will provide administration of the Contract and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 10.2 The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or

charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 10.4 Based on the Architect's evaluations of the Work and of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 10.5 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

§ 10.6 The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 10.7 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

§ 10.8 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

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

ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site.

§ 11.2 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of the Subcontractors or suppliers for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under conditions of the contract identical or substantially similar to these, including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such claim as provided in Article 21.

§ 12.2 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's activities with theirs as required by the Contract Documents.

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a separate contractor because of delays, improperly timed activities or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work or defective construction of a separate contractor.

ARTICLE 13 CHANGES IN THE WORK

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor and Architect, or by written Construction Change Directive signed by the Owner and Architect.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and reasonable overhead and profit, unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order.

§ 13.3 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

ARTICLE 14 TIME

§ 14.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 14.2 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 14.3 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 14.4 The date of Substantial Completion is the date certified by the Architect in accordance with Section 15.4.3.

§ 14.5 If the Contractor is delayed at any time in the commencement or progress of the Work by changes ordered in the Work, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties or any causes beyond the Contractor's control, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine, subject to the provisions of Article 21.

ARTICLE 15 PAYMENTS AND COMPLETION

§ 15.1 APPLICATIONS FOR PAYMENT

§ 15.1.1 Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values, allocating the entire Contract Sum to the various portions of the Work, prepared in such form and supported by such

data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used in reviewing the Contractor's Applications for Payment.

§ 15.1.2 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed (1) progress payments already received by the Contractor, less (2) that portion of those payments attributable to the Contractor's Fee; plus (3) payrolls for the period covered by the present Application for Payment.

§ 15.1.3 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 15.1.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

§ 15.2 CERTIFICATES FOR PAYMENT

§ 15.2.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.2.3.

§ 15.2.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluations of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 15.2.3 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.2.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.2.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;

- .6 reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 15.2.4 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 15.3 PROGRESS PAYMENTS

§ 15.3.1 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in similar manner.

§ 15.3.2 Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor except as may otherwise be required by law.

§ 15.3.3 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 15.4 SUBSTANTIAL COMPLETION

§ 15.4.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 15.4.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 15.4.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion, establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 15.4.4 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 15.5 FINAL COMPLETION AND FINAL PAYMENT

§ 15.5.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.5.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 15.5.2 Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could

be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

§ 15.5.3 The making of final payment shall constitute a waiver of claims by the Owner except those arising from

- .1 liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 15.5.4 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY

§ 16.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

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

The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3, except for damage or loss attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9.15.

§ 16.2 HAZARDOUS MATERIALS

§ 16.2.1 The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay and start-up.

§ 16.2.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 16.2.3 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

ARTICLE 17 INSURANCE AND BONDS

§ 17.1 The Contractor shall purchase from, and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, insurance for protection from claims under workers' compensation acts and other employee benefit acts which are applicable, claims for damages because of bodily injury, including death, and claims for damages, other than to the Work itself, to property which may arise out of or result from the Contractor's operations and completed operations under the Contract, whether such operations be by the Contractor or by a Subcontractor or anyone directly or indirectly employed by any of them. This insurance shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater, and shall include contractual liability insurance applicable to the Contractor's obligations under Section 9.15. Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. Each policy shall contain a provision that the policy will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. The Contractor shall cause the commercial liability coverage required by the Contract Documents to include: (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 17.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 17.3 PROPERTY INSURANCE

§ 17.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance on an "all-risk" or equivalent policy form, including builder's risk, in the amount of the initial Contract Sum, plus the value of subsequent modifications and cost of materials supplied and installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 15.5 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 17.3.1 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and sub-subcontractors in the Project.

§ 17.3.2 The Owner shall file a copy of each policy with the Contractor before an exposure to loss may occur. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 17.3.3 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 12, if any, and any of their subcontractors, sub-subcontractors, agents and employees for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to Section 17.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 12, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 17.3.4 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Contractor shall pay Subcontractors their just shares of insurance proceeds

received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their sub-subcontractors in similar manner.

§ 17.4 PERFORMANCE BOND AND PAYMENT BOND

§ 17.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 17.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 18 CORRECTION OF WORK

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, unless compensable under Section A.2.7.3 in Exhibit A, Determination of the Cost of the Work.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.4.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

§ 18.4 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

ARTICLE 19 MISCELLANEOUS PROVISIONS

§ 19.1 ASSIGNMENT OF CONTRACT

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 19.2 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located, except, that if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.4.

§ 19.3 TESTS AND INSPECTIONS

Tests, inspections and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public

authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating the costs to the Contractor.

§ 19.4 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 19.4.

ARTICLE 20 TERMINATION OF THE CONTRACT

§ 20.1 TERMINATION BY THE CONTRACTOR

If the Architect fails to certify payment as provided in Section 15.2.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 20.2 TERMINATION BY THE OWNER FOR CAUSE

§ 20.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 20.2.2 When any of the above reasons exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor seven days' written notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 20.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

§ 20.3 TERMINATION BY THE OWNER FOR CONVENIENCE

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.8 and Sections

15.5.3 and 15.5.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution.

§ 21.2 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 21.3 The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with their Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 21.4 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any claim, subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association, in accordance with the Construction Industry Arbitration Rules in effect on the date of this Agreement. Demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 21.5 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 21.6 Any party to an arbitration may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described in the written Consent.

§ 21.7 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 21.8 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.8 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

« »« »

(Printed name and title)

CONTRACTOR (Signature)

« »« »

(Printed name and title)



SECTION 01100 - SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. This section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. All bidders shall be held to have thoroughly examined all of the drawings and specifications and to have visited the site to determine the extent of reroofing and alteration work required. All measurements are the responsibility of the bidder.
- C. It is the declared and acknowledged intention and meaning of these specifications to repair, reroof and to alter the existing premises as required to provide a weathertight roofing system.
- D. The work will include the furnishing of all materials and equipment and the performing of all labor required, whether or not specifically indicated by the plans and specifications, to provide a weathertight roofing system.

1.02 PROJECT NAME

- A. Project Name: Plymouth Township Fire Station No. 3 Roof Replacement.
- B. Owner's Name: Charter Township of Plymouth.
- C. Roof Consultant's Name: Roofing Technology Associates, Ltd.

1.03 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Section 00590 - Contracting Forms and Supplements.

1.04 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of alterations work is shown on drawings and described in the individual sections of the specifications.
- B. Project consists of building exterior remediation including reroofing steep slope roof areas with fiber glass laminated asphalt shingles, soffit modifications, wall siding remediation, ventilation improvements and gutter replacement.
 - 1. New step flashing, apron flashing and penetration flashing are required.
 - 2. New gutters and downspouts are required.
 - 3. New vinyl siding is to replace the existing aluminum siding at one elevation change side wall location.
 - 4. Eliminate the existing soffit panels. Double continuous strip soffit vents are required.
 - 5. Power vents are required.
 - 6. New attic baffles are required.
 - 7. New heat trace cable is required.
 - 8. The lightning protection system is to be re-certified by the Owner.

1.05 EXISTING MATERIAL AND EQUIPMENT REMOVED

- A. Contractor shall remove all fixed equipment designated to be removed.
- B. Items of existing equipment which are to be reused, shall be carefully removed, stored and protected, and later reinstalled in original or new locations as required.

- C. Certain materials, particularly specified, shall be reused in the work, such material shall be in good usable condition and shall be cleaned and conditioned as required for reuse.
- D. All existing material and equipment which is to remain in place or to be reused and has been damaged or defaced during the progress of the work, shall be restored to a condition equal to that which existed prior to the start of the work, or shall be replaced with new materials and equipment equal in all respects, and finished so as to be uniform in appearance to adjacent existing work.

1.06 SALVAGED MATERIALS

- A. Salvaged materials which are not to be reused will, unless otherwise specified, or verbally requested by the Owner's Representative, become the property of the Contractor and will be removed from the premises by him and legally disposed of off-site by him.

1.07 EXISTING CONDITIONS

- A. The Contractor shall check all dimensions and verify all conditions shown on the drawings at the site in relation to his work.
- B. Information as shown on the plans is given solely for the convenience of the Contractor, and use of such dimensions, elevations, sizes or information is made at his own risk.
- C. Conditions other than those which are described in these specifications shall be identified in writing to the Roof Consultant before proceeding with the work. The Roof Consultant will provide approved alternate details as required by changed conditions. The Contractor shall be responsible for any unauthorized changes he incorporates in the work.

1.08 WORK HIRED BY THE CONTRACTOR

- A. The Contractor will be responsible for hiring and coordinating the electrical subcontractor for connection of the new power vents.

1.09 OWNER OCCUPANCY

- A. Owner intends to continue to occupy portions of the existing buildings during the entire construction period.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner's occupancy.

1.10 CONTRACTOR USE OF SITE AND PREMISES

- A. Arrange use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Use of site and premises by the public.
- B. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- C. Existing building spaces may not be used for storage.
- D. Utility Outages and Shutdown:
 - 1. No planned disruptions are allowed.
 - 2. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Correlation of Contractor submittals based on changes.
- C. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Section 00590 - Contracting Forms and Supplements: Forms to be used.
- B. Section 01270 - Unit Prices: Monetary values of unit prices, payment and modification procedures relating to unit prices.

1.03 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Roof Consultant for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.
- D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Roof Consultant for approval.
- C. Forms filled out by hand will not be accepted.
- D. Present required information in typewritten form.
- E. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
- F. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed and Stored to Date of Application.
 - 8. Percentage of Completion.

9. Balance to Finish.
10. Retainage.
- G. Execute certification by signature of authorized officer.
- H. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.
- I. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- J. Submit three copies of each Application for Payment.
- K. Include the following with the application:
 1. Partial release of liens from major Subcontractors and vendors.
 2. Notorized Sworn Statements.
- L. When Roof Consultant requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

- A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Roof Consultant will issue instructions directly to Contractor.
- B. Roof Consultant will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing documents containing supplemental instructions.
- C. For other required changes, Roof Consultant will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 2. Promptly execute the change.
- D. For changes for which advance pricing is desired, Roof Consultant will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 7 days.
- E. Contractor may propose a change by submitting a request for change to Roof Consultant, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 1. For change requested by Roof Consultant for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Roof Consultant.
 3. For pre-determined unit prices and quantities, the amount will be based on the fixed unit prices.

4. For change ordered by Roof Consultant without a quotation from Contractor, the amount will be determined by Roof Consultant based on the Contractor's substantiation of costs as specified for Time and Material work.
- G. Substantiation of Costs: Provide full information required for evaluation.
1. On request, provide following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.
 - e. Credit for deletions from Contract, similarly documented.
 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- H. Execution of Change Orders: Roof Consultant will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

1.06 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 1. All punchlist items have been satisfactorily completed as determined by the Roof Consultant.
 2. Warranties have been issued.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01230 - ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Documentation of changes to Contract Sum and Contract Time.
- B. List of Alternates, for use in preparing Bids.

1.02 RELATED SECTIONS

- A. Document 00200 - Instructions to Bidders: Instructions for preparation of pricing for alternates.
- B. Document 00500 - Agreement: Incorporating monetary value of accepted alternates.

1.03 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each alternate.

1.04 LIST OF ALTERNATES

- A. Alternate No. 1 - Performance, Labor and Material Bonds - Provide the Owner with a price for furnishing Performance and Labor and Material bonds executed on AIA Document A312, with the amount shown for each part equal to 100 percent of the total amount payable by the terms in the Contract. The bonding company must be a U.S. company whose address is located in the contiguous United States. The bonding company must be approved by the Owner's Representative. Quote a lump sum price to furnish the indicated bonds on the Bid Form.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01270 - UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. List of unit prices, for use in preparing Bids.
- B. Measurement and payment criteria applicable to Work performed under a unit price payment method.
- C. Defect assessment and non-payment for rejected work.

1.02 COSTS INCLUDED

- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, tools, equipment, transportation, services, application or installation of an item of the Work; overhead and profit.

1.03 UNIT QUANTITIES SPECIFIED

- A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.04 MEASUREMENT OF QUANTITIES

- A. Take all measurements and compute quantities. Measurements and quantities will be verified by Roof Consultant.
- B. Measurement by Area: Measured by square dimension using mean length and width or radius.
- C. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

1.05 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Roof Consultant, multiplied by the unit price.
- B. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products remaining on hand after completion of the Work.
 - 4. Loading, hauling, and disposing of rejected Products.

1.06 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Roof Consultant, it is not practical to remove and replace the Work, Roof Consultant will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Roof Consultant.
 - 2. The defective Work will be partially repaired to the instructions of the Roof Consultant, and the unit price will be adjusted to a new unit price at the discretion of Roof Consultant.
- C. The authority of Roof Consultant to assess the defect and identify payment adjustment is final.

1.07 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1 - Wood Nailers and Plywood - Replace, as necessary and designated by the Owner's Representative, deteriorated wood nailers and plywood. Quote a per lineal foot price for dimensional lumber and a per square foot price for plywood on the Bid Form for the following sizes:

1. 1" x 4"
2. 1" x 6"
3. 1" x 8"
4. 2" x 4"
5. 2" x 6"
6. 2" x 8"
7. 3/8-inch rough sawn plywood
8. 15/32-inch CDX plywood
9. 5/8-inch CDX plywood
10. 5/8-inch fire retardant treated plywood

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 ROADWAYS, DRIVES, PARKING AREAS AND SIDEWALKS

- A. The Contractor is responsible for the condition of all existing roadways, sidewalks, etc., used during construction operations and shall repair same as required and leave same in good condition at the completion of the job.

1.02 BARRICADES AND PROTECTION

- A. The property on which work is to be done is in use. This means that employees and other general public may be adjacent to and below the construction operations.
- B. The Contractor will provide and maintain in good repair all barricades, guard railings and temporary protection as required by law and/or to suit job conditions.
- C. The Contractor shall do everything possible to protect the public, the workmen, the premises and adjoining property from injury or damage.
- D. Properly protect all sidewalks, pavements, existing building areas, building facades, windows and skylights. Replace or repair all parts of same which become damaged or defaced during or as a result of construction operations. Repairing of damaged parts shall be done in strict accordance with all local codes and ordinances and the Owner as conditions require.

1.03 VANDALISM

- A. The Contractor shall pay for all damage by vandalism to material or equipment that occurs to items finished or installed under this Contract. The Contractor shall be responsible for the work under this Contract during the construction period from the start until the final acceptance of the entire project by the Owner.

1.04 PROTECTION

- A. Provide and erect all required barricades and safety precautions in accordance with local, State and Federal Codes and other legal requirements.
- B. Provide secure, weatherproof protection for existing buildings, finishes, walks, drives, landscaping, lawns, etc., to remain. Repair any damage to the satisfaction of the Owner.
- C. Remove all protection and guards when work is completed and restore disturbed areas.
- D. Whenever lifting materials or equipment over or near existing or occupied buildings, give advance notice and arrange to have any potentially endangered spaces vacated.

1.05 TEMPORARY WEATHER PROTECTION

- A. The Contractor shall provide, maintain and pay for all temporary weather protection as required to properly protect all parts of the work from damage. This shall include temporary protective coverings.

1.06 RUBBISH DISPOSAL, FIRE SAFETY

- A. During non-construction hours, trash containers shall be covered and sealed to prevent wind blown debris and access into trash containers.
- B. The location of the trash containers shall be subject to the approval of the Owner.
- C. All rubbish and debris shall be removed from the site daily or more often if directed by the Owner's Representative. Burning of trash on-site shall not be allowed.
- D. No open fire shall be permitted on the building site at any time.

1.07 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Use of existing facilities is not permitted.
- C. Maintain daily in clean and sanitary condition.

1.08 REMOVAL OF TEMPORARY WORK

- A. All temporary structures, barricades, protection and similar work shall be removed by the Contractor at completion of the project or when directed. Any repairs or alterations necessitated by such removal shall be made by the Contractor, and at the Contractor's expense.

1.09 WORK ACTIVITIES

- A. Contractors and subcontractors shall direct their employees to conduct themselves so as not to interfere with or disrupt the building activities. The Contractor shall schedule construction operations to minimize interference with operations, and cooperate with Owner's Representative in maintaining public access to existing building facilities.
- B. All construction operations, delivery and storage of material and movement of equipment shall be governed by applicable local building codes, traffic regulation and safety and fire regulation of local authorities.
- C. Contractor's employees parking, delivery trucks and other construction vehicle parking shall only be at areas designated by the Owner's Representative.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 07311 - ASPHALT SHINGLES

PART 1 GENERAL

1.01 REFERENCES

- A. ASTM D 249 - Standard Specification for Asphalt Roll Roofing (Organic Felt) Surfaced with Mineral Granules; 1989 (Reapproved 1996).
- B. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2000.
- C. ASTM D 3462 - Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules; 2000.
- D. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2000.
- E. ASTM D 4869 - Standard Specification for Asphalt-Saturated Organic Felt Shingle Underlayment Used in Roofing; 1988 (Reapproved 1993).
- F. NRCA MS104 - The NRCA Steep Roofing Manual; National Roofing Contractors Association; 2001, Fifth Edition.
- G. ARMA - The Asphalt Roofing Manufacturers Association; Residential Asphalt Roofing Manual; 1997 Edition.
- H. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 1993, Fifth Edition.
- I. UL (RMSD) - Roofing Materials and Systems Directory; Underwriters Laboratories Inc., current edition.

1.02 SUBMITTALS

- A. Send all requested submittals to the Roof Consultant for approval or acceptance.
- B. Product Data: Provide distributors printed information on material characteristics and application limitations.
- C. Installation Instructions: Include distributors recommendations for substrate preparation and installation of roofing system and related accessories.
- D. Proposed Products List: The Contractor shall submit a complete list of all proposed materials that are required to install the specified roofing system. No materials shall be sent to the jobsite until written approval of the materials is obtained from the Roof Consultant.
- E. Shop Drawings: Provide shop drawings for Roof Consultant review and approval of unique project details as requested.
- F. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern ; for color selection. When requested, submit sheet metal samples indicating color range and finishes.
- G. Subcontractors, Material Suppliers and Services List: Submit a list of subcontractors, material suppliers and any company that will be used to supply labor or materials or services for this project. The list must provide company name, company address, company phone and fax numbers and the contact person for each company listed.

1.03 QUALITY ASSURANCE

- A. Reference Standards
 - 1. The latest publications of The NRCA Steep Roofing Manual; National Roofing Contractors

Association, and SMACNA Architectural Sheet Metal and the Residential Asphalt Roofing Manual published by ARMA, as applicable to this project.

2. Provide materials which have been tested, listed and labeled by Underwriters Laboratories (UL).

B. Installer References

1. The Contractor shall be a licensed installer for the specified shingle roof manufacturer and have installed shingle roof systems of a similar nature. The Contractor shall have a minimum of 5 years experience and submit references from past jobs. Failure to meet these criteria will be basis for rejection of the bid.
2. The Contractor shall provide names and phone numbers of key individuals in the firm that can be reached 24 hours a day. Telephone numbers to an answering service or telephone answering machine will not be considered acceptable.

C. Installation Standards

1. Accomplish work under this Section in strict accordance with the shingle manufacturer's published specifications and best trade practices to achieve a completely watertight roofing and flashing installation.

D. General

1. The Contractor will be responsible for measurements. Before ordering material, preparing shop drawings, or doing any work, verify at the site all dimensions which may affect the work. The Contractor assumes full responsibility for the accuracy of figures. No allowance for additional compensation will be considered for discrepancies between dimensions on the drawings and actual field dimensions.
2. Immediately refer to any conflicts among requirements of these specifications, on drawings, those of regulatory agencies, material manufacturer's recommendations and good roofing practices to the Owner's Representative.
3. Final results are the entire responsibility of the Contractor.

1.04 PROJECT CONDITIONS

- A. Weather Conditions Limitations: Proceed with roofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.
1. Do not remove or install materials when rain, moisture, frost, snow or other inclement climatic conditions are occurring.

1.05 PRODUCT HANDLING

- A. Store and handle roofing materials in a manner which will prevent moisture intrusion. Store in a dry, well ventilated, weather tight place. Unless protected from weather or other moisture sources, do not leave unused felts on the roof overnight or when roofing work is not in progress. Store rolls of felt and other sheet materials on end on pallets or other raised surface and completely cover with tarps. Handle and store materials and equipment in a manner to avoid damage and/or significant or permanent deflection of deck.
- B. Materials and equipment shall be stored in a location determined by the Owner's Representative.

1.06 WARRANTY

- A. The Contractor shall provide a written warranty, warranting that all work of this Section shall remain serviceable and watertight for a period of five years from date of final acceptance of the

project; and to make good without expense to the Owner any work becoming defective during that period.

- B. The Contractor shall deliver to the Owner, prior to final payment, the shingle manufacturer's written warranty for the shingles installed on this project along with proof of purchase. The warranty shall be for the time period stated by the shingle manufacturer for the particular shingle installed.

1.07 QUALITY CONTROL AND TESTING

- A. The Owner reserves the right to provide quality control for this project including inspection services during reroofing operations to assure compliance with the specifications.
- B. A pre-job conference may be required prior to the start of construction. The Contractor representatives must attend this conference.
- C. The Contractor shall notify Roofing Consultant in sufficient time, whenever roofing work is to be done and provide safe access to roof for inspection.
- D. The Contractor shall furnish Roofing Consultant with all pertinent job information prior to beginning work in accordance with Roofing Consultant directions.

PART 2 PRODUCTS

2.01 PRODUCT DESCRIPTION

- A. General
 - 1. Performance: Provide roofing materials recognized to be of the generic type indicated and tested to show compliance with indicated performances, or provide other similar materials certified in writing by the manufacturer to be equal or better than specified in every significant respect, and acceptable to the Owner.
 - 2. Compatibility: Provide products which are recommended by the selected material manufacturer to be fully compatible with indicated substrates, or provide separation materials as required to eliminate contact between incompatible materials.

2.02 WOOD

- A. Plywood: APA rated sheathing, Exposure 1. Thickness: 15/32-inch (wall sheathing) and 5/8-inch (roof deck) with a span rating which meets or exceeds the spacing of the structural supports.
- B. Fire-Retardant Treated Plywood: APA rated sheathing, Exposure 1. Thickness: 5/8-inch with a span rating that meets or exceeds the spacing of the structural supports. The FRT plywood shall be kiln dried after treatment to a moisture content of 15%.
- C. Wood Nailers and Trim Boards: Construction grade lumber, size to match the existing boards, S4S, S-dry moisture content.
- D. Soffit Panels: Spruce, fir or pine plywood, textured rough sawn surface, exterior exposure. Thickness: 3/8-inch.

2.03 SHINGLES

- A. Manufacturers:
 - 1. Certainteed Corporation, www.certainteed.com; Landmark AR, lifetime, random-tab, laminated shingles.
 - 2. GAF/ ELK Corporation, www.gaf.com ; Timberline Prestique, High Definition, lifetime, random-tab, laminated shingles.
 - 3. Owens Corning Corporation, www.owenscorning.com; Duration Series Shingles, lifetime,

random-tab, algae resistant, laminated shingles.

- B. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D 3462; Class A fire resistance. The shingles must be lifetime, algae resistant shingles. The color shall be selected by the Owner.
- C. Ridge Cap Shingles: Use the selected shingle manufacturers accessory shingle that matches the selected shingle style and color:
 - 1. Certainteed Corporation, ContourRidge Accessory Shingles.
 - 2. GAF/ELK Materials Corporation, Timbertex Hip and Ridge Accessory Shingles.
 - 3. Owens Corning Corporation, High Ridge Hip and Ridge Shingle with Sealant.

2.04 SHEET MATERIALS

- A. Underlayment: Asphalt-impregnated fiber-glass-reinforced felt underlayment, complying with ASTM D 6757, and manufactured to meet the performance requirements of ASTM D226 and ASTM D4869. Acceptable manufacturers and products:
 - 1. Certainteed Corporation, Roofer's Select Underlayment.
 - 2. GAF/ELK Corporation, Shingle-Mate Underlayment.
 - 3. Owens Corning Corporation, Fiberglas Reinforced Felt Underlayment.
- B. Eaves and valley flashing membrane: Self-adhering polymer modified bituminous sheet, complying with ASTM D 1970, 40 mil total thickness, with split-back plastic release film; as manufactured by:
 - 1. Certainteed Corporation, WinterGuard Waterproofing Underlayment
 - 2. GAF/ELK Corporation, Weather Watch Waterproofing Underlayment
 - 3. Owens Corning Corporation, Weather Lock Waterproofing Underlayment
 - 4. W.R.Grace – Ice and Water Shield
- C. Additional Valley Flashing Membrane: Mineral-surfaced asphalt roll roofing (organic felt); ASTM D 249, as approved by the selected shingle manufacturer.

2.05 VENTS

- A. Power Vents: Prefinished aluminum construction, CFM rating: 1,500 CFM (minimum) to 2,000 CFM (maximum). Accessory controller must provide thermostat and humidistat control. Color to be selected by the Owner. As manufactured by or approved equal:
 - 1. Air Vent Inc. - Power Cool Plus 15. Four (4) power vents required.
 - 2. Master Flow, Inc. - Power Vent, Model No. PR3XD, power vent requires separate thermostat/ humidistat control, Model No. HT1. Four (4) power vents required.
 - 3. Lomanco, Inc. - Lomancool 2000TH. Three (3) power vents required.
- B. Soffit Vents: Intake vents shall be vinyl, continuous strip soffit vent. Width: 3-inches by 3/8-inch depth. Intake vents must provide a minimum Net Free Ventilation Area of 12.7 square inches per lineal foot. As manufactured by or approved equal:
 - 1. Tamlyn and Sons, Wide Hat Shaped Continuous Soffit Vent

2.06 SHEET METAL

- A. Drip Edge: Standard available 0.019" prefinished aluminum, minimum 2.33-inch flange, 1½-inch

face (minimum), with 1/4-inch drip edge. Color to be selected by the Owner.

- B. Step Flashing: .019" prefinished aluminum, minimum 8-inches x 8-inches. Color to be selected by the Owner.
- C. Apron Flashing, Counterflashing and Miscellaneous Flashing: .024" prefinished aluminum sheet stock. Color to be selected by the Owner.
- D. Plumbing Vent Pipe Flashing: Fabricate from ASTM B 749, Type L51121, copper-bearing lead sheet, with a weight of 4 lbs./sq.ft., minimum thickness of 0.0625 inch. The sleeve must be sized to properly fit the pipe. The flange to sleeve connection must be suited for the intended slope.
- E. Gutters and Downspouts: Standard .027" aluminum gutters, and .019" aluminum for downspouts, with a baked enamel finish. Color to be selected by the Owner. Gutter size: 6-inch residential K style. Downspout size: 3-inch by 4-inch rectangular. Accessories such as mitered corners, end caps, downspout straps and outlet tubes shall be utilized wherever possible as an integral system.
- F. Water Diverters: .019" prefinished aluminum. Color to be selected by the Owner. Height: 3-inches. Length: As required.

2.07 VINYL SIDING

- A. Replacement Vinyl Siding as manufactured by or approved equal:
 - 1. Mastic Home Exteriors, Inc: www.mastic.com
 - 2. CertainTeed Corporation: www.certainteed.com
- B. Horizontal Vinyl Siding - Profile: Clapboard, Double 4-Inch; 8-inch exposure. Thickness: 0.046-inch minimum. Finish: Wood grain.
- C. Provide accessories as recommended for use with the selected vinyl siding manufacturer.

2.08 FASTENERS

- A. NOTE: No staples will be allowed for use on this project.
- B. To secure the wood deck: 8d galvanized nails, long enough to penetrate into the supporting structure a minimum of 1-1/2-inches, and provide a minimum pull-out resistance of 100 pounds.
- C. To secure the trim boards and soffit panels: 8d hot-dipped galvanized spiral shank nails or stainless steel, long enough to penetrate into the supporting structure a minimum of 1-1/2-inches, and provide a minimum pull-out resistance of 100 pounds.
- D. To secure drip edge, underlayment, starter course shingles, shingles, counterflashing and step flashing: Minimum length to penetrate through the roof deck, 12-gauge, corrosion resistant, galvanized steel roofing nails with 3/8-inch diameter head.
- E. To secure sheet metal to masonry: Lead wedges.

2.09 ACCESSORIES

- A. Attic Insulation Baffles: Extruded polystyrene foam, Minimum Size: 48" x 22", Minimum Net Free Vent Area: 18.7 sq.in. as manufactured by:
 - 1. Owens Corning Corporation, Raft-R-Mate Attic Rafter Vents.
 - 2. ADO Products, Durovent Attic Rafter Vents.
- B. Gooseneck Flashing at Lightning Protection Cable Penetration: One piece, PVC conduit with 26 gauge stainless steel, type 304, 2B finish roof flange and stack flashing. Acceptable

manufacturers or approved equal:

1. SBC Industries, Cable Flashing, Model CG, www.sbcflashings.com.
- C. Sealant: For sheet metal flashings, high performance, one component, polyurethane-base as manufactured by:
1. NPC, Inc. - Solar Seal # 900.
 2. Sika Corporation, Sikaflex – 1a
 3. Tremco, Inc., Vulkem 116
- D. Plastic Cement: ASTM D 4586, asphalt plastic roof cement compatible with asphalt shingles.
- E. Primer and Paint: For preparing and painting sheet metal stacks; acceptable manufacturers or approved equal:
1. Pittsburgh Paints
 - a. Metal Primer: PITT-TECH® Int/Ext Primer/Finish DTM Industrial Enamel.
 - b. Metal Paint: SPEEDHIDE® Exterior Satin Acrylic Latex, color to be selected by the Owner.
 2. Sherwin-Williams Company
 - a. Metal Primer: Pro Industrial™ Pro-Cryl® Universal Acrylic Primer.
 - b. Metal Paint: A-100® Exterior Latex Paint, color to be selected by the Owner.
- F. Primer for New Wood Surfaces: For preparing new wood soffit panels surfaces; acceptable manufacturers or approved equal:
1. Pittsburgh Paints
 - a. Wood Primer: SUN-PROOF® Exterior House and Trim Oil Primer, White Universal Primer, 1-70.
 2. Sherwin-Williams Company
 - a. Wood Primer: A-100® Exterior Oil Wood Primer.
- G. Heat Trace System: 120 volt, commercial grade, self-regulating heating cable. Acceptable manufacturer or approved equal:
1. EasyHeat, SR Trace, Roof & Gutter De-icing Self-Regulating Heating Cable, Catalog Number SR51J. For use in the new gutters and downspouts only.

2.10 FABRICATION

- A. Reglet Mounted Counterflashing: The counterflashing shall be fabricated as shown in the RTA Details with the top edge bent to receive into the reglet 1-1/2-inches. The face shall be a minimum of 4-inches and the bottom edge shall be hemmed and bent at 45 degrees to form a 1/2-inch drip.
- B. Apron Flashing: Fabricate the apron flashing to match the intended slope. The vertical face shall extend up the wall 5-inches. The exposed face shall be 4-inches. The bottom edge of the apron flashing shall be hemmed 1/2-inch.

PART 3 EXECUTION

3.01 DEMOLITION AND SUBSTRATE PREPARATION

- A. The Contractor shall photographically document all damaged building components, building grounds, drives and sidewalks prior to the job start to record pre-existing conditions.
- B. Remove and discard the following components or prepare surfaces as described:
 - 1. Remove and discard the existing shingle roofing, drip edge, underlayment, valley flashing and miscellaneous debris down to the structural roof deck.
 - 2. Remove the existing nails/staples or drive them flush with the deck to provide a smooth substrate for installing the new shingle roof.
 - 3. Temporarily displace the lightning protection air terminals. Temporarily disconnect the lightning protection cable from the through conductor penetration near the vent stack (1 location).
 - 4. Remove and discard the existing heat trace and connector hardware.
 - 5. Remove and discard the existing ridge cap shingles and ridge vents. Eliminate the existing opening at the ridge location. Infill the opening with strips of matching plywood roof deck.
 - 6. Cut new roof deck openings to facilitate new power vent installations. The openings in the roof deck shall be in accordance with the new power vent manufacturer's requirements. Locate the new power vent openings equally across the roof as shown on the Roof Plan. The new openings must be located within 2-feet of the ridge. Provide 3 or 4 openings depending on the selected power vent manufacturer. Combined CFM output of the power vents must not exceed 7000 CFM.
 - 7. Remove and discard the first row of existing roof deck sheathing along the eaves edges to facilitate attic baffle installation and soffit work.
 - 8. Remove and the discard the roof deck sheathing on roof rafters over the mechanical room to facilitate full attic baffle installation. See the location indicated on the Roof Plan.
 - 9. Remove and discard the existing undersize attic baffles.
 - 10. Remove and discard the existing aluminum siding on the side wall at the elevation change. Remove and discard the related, existing J-channel and miscellaneous aluminum siding trim.
 - 11. Temporarily displace the trim cladding on the rake edge fascia boards at the elevation changes and building returns. Temporarily displace the trim boards to facilitate step flashing removal and replacement and proper underlayment installation.
 - 12. Remove and discard the existing sheet metal step flashing, apron flashing and counterflashing.
 - 13. Clean off repair materials at brick wall locations. Saw cut new reglets at the appropriate locations approximately 1-1/2-inches deep.
 - 14. Remove and discard the existing plumbing vent flashings. Remove repair materials from the vent stacks.
 - 15. Temporarily remove and save the existing vent stack flange, sleeve and umbrella flashings and rain caps. Remove all caulk and roof cement repair materials from the stacks and flashings. Prepare the vent stacks for priming and painting in accordance with the paint manufacturer's requirements.

16. Remove and discard the existing gutters, downspouts and connecting hardware.
17. Remove and discard the existing eaves edge and entrance soffit panels. Note: Soffit panels located at rake edges, building returns, towers and other areas where the possibility of intake air can not be achieved may remain in place. The existing soffit panel accessory trim and trim cladding on the eaves edges may remain in place if reusable with the new soffit panels.
18. Closely inspect all roof decking and exposed wall sheathing. Remove and replace all warped, delaminated or deteriorated decking and sheathing. Replacement roof decking and sheathing shall be matching thickness plywood sheathing. Replacement roof decking located within 4-feet of a firewall shall be fire retardant treated plywood.
 - a. NOTE: Roof deck and wall sheathing replacement shall be bid as an extra, see Unit Prices Section and the Bid Form.
19. Closely inspect all trim boards and trim cladding to remain. Remove and discard existing loose fasteners. Resecure loose trim boards and trim cladding with new appropriate fasteners. Remove and replace all warped, delaminated or deteriorated trim boards. Replace full boards only. No splicing of trim boards is acceptable.
 - a. NOTE: Deteriorated trim board replacement shall be bid as an extra, see Unit Prices Section and the Bid Form.
20. Inspect the fastening pattern used to secure the existing roof deck. Install additional fasteners as required to properly secure the the existing roof deck.
21. Blow off or sweep the roof deck clean prior to installing new materials.

3.02 INSTALLATION PROCEDURES

A. General

1. The Contractor shall comply with the manufacturer's instructions, except where more stringent requirements are indicated herein.
2. The Contractor for this work must insist on a thoroughly dry deck surface before beginning work. The deck must be free of moisture, frozen scale and other foreign matter. Do not apply roofing materials when moisture in any form can be seen on the felt underlayment and/or on the surface to which those materials will be applied.
3. Do not install any roofing materials during rain or other inclement weather. One exception is that temporary work may be installed during such weather to protect the building interior. Remove all temporary work and materials that have been exposed to such weather, then install permanent materials as specified during acceptable weather conditions.
4. Any areas in the existing roof, building envelope, building grounds, sidewalks and drives that are stained or damaged during construction shall be repaired with matching materials as directed by the Owner's Representative.
5. Schedule and supervise work crews so that the area of roofing begun one day is completely finished before leaving the job site that day. Included are all flashings within each day's work area.

B. Attic Baffles

1. Install full length, full width attic baffles between existing trusses along exposed eaves edges of conditioned attic spaces. Ensure that both ends of each baffle are unobstructed. Secure the attic baffles with staples to prevent displacement.
2. Install full length, full width attic baffles between existing rafters at the mechanical room location. Space successive attic baffles in accordance with the attic baffle manufacturer's

requirements. Ensure that both ends of the attic baffles are unobstructed. Secure the attic baffles with staples to prevent displacement. Air flow must be unobstructed from the soffit vents to the conventional attic space in the raftered spaces above the mechanical room.

C. Trim Board, Fascia Cladding and Soffit Panel Installation

1. Prime replacement trim boards and soffit panels on all surfaces including cut ends with the specified wood primer prior to installation. Cross cut and butt joint tolerances: 1/16". Secure the trim boards with the specified nails spaced 12-inches on center in two staggered rows.
2. Install new trim boards where the existing trim boards were removed due to deterioration.
3. Verify that the existing plywood sub-soffit is cut and removed in a 6-inch strip at all eaves edge soffit locations. Cut and remove a 6-inch wide strip in the plywood sub-soffit where this condition does not exist. Minimum total length of 6-inch wide strip removal: 145-feet.
4. Install two-inch wide wood blocking at the soffit locations to provide support and nailing surfaces for the new vents and new wood soffit panels. New wood blocking spacing: 24-inches on center. Additional wood blocking required at soffit panel endjoints. Secure the new wood blocking to the plywood sub-soffit with screws spaced 12-inches on center.
5. Install new wood soffit panels along the eaves edges. The installation shall be in accordance with the RTA Details. Utilize the existing trim flashing at the wall and the fascia cladding. Return the existing trim flashing and fascia cladding to its original position and pop rivet or nail as required to remove waves and wrinkles. Note: Three pieces of new wood soffit panels are required as shown in the RTA Details. Provide the required opening to receive two rows of continuous strip soffit vent. Secure the soffit panels at each wood blocking support with 8d galvanized, spiral shank nails. Seal the nail heads and endjoints of the new soffit panels with paintable latex caulk.
6. Neatly tie in the new wood soffit panels with the existing sheet metal soffit panels to remain. Provide trim cladding as necessary to neatly conceal tie-in locations.

D. Wood Nailer Installation

1. Install new wood nailer where the existing wood nailer was removed due to deterioration. Mechanically attach the wood nailer with galvanized 16d nails spaced 12-inches on center.

E. Wood Sheathing Replacement

1. Install replacement sheathing with the long dimension across the supports. Leave a 1/8-inch gap at all edges and end joints. Stagger the endjoints by the maximum dimension. The new decking must span a minimum of three supports. Install panel clips between the trusses and rafters.
2. Mechanically attach the new wood sheathing to the underlying supports using the specified fasteners. Fasten the wood sheathing edges 6-inches on-center, and 9-inches on-center into the intermediate supports.
3. Install new wood sheathing along the eaves edges. Mechanically attach the wood sheathing as described above. Include this work item in the Base Bid.
4. Install new wood sheathing at the mechanical room raftered space location. Mechanically attach the wood sheathing as described above. Include this work item in the Base Bid.
5. Install new wood sheathing where the existing sheathing was removed due to deterioration. Mechanically attach the wood sheathing as described above. This work item is a unit price extra.
6. Install new fire retardant treated wood sheathing where the existing decking was removed

due to deterioration within 4-feet of fire walls. Mechanically attach the wood sheathing as described above. This work item is a unit price extra.

7. Install new wood sheathing on the side walls at elevation changes where the existing sheathing was removed due to deterioration. Mechanically attach the wood sheathing as described above. This work item is a unit price extra.

F. Vinyl Siding

1. Install products in accordance with the latest printed instructions of the manufacturer and in accordance with the Vinyl Siding Installation Manual; Vinyl Siding Institute.
2. Install products with all components true and plumb.
3. Replacement horizontal siding shall be installed in the same locations as the removed siding products.
4. Verify that the specified eaves flashing completely covers the side walls at the elevation change locations. Corners and weak points in the eaves flashing coverage have been reinforced with additional eaves flashing patches. The eaves flashing properly laps onto the adjacent roof deck felt underlayment.
5. Install new starter strip, utility trim, j-channel flashing and other vinyl trim accessories to provide securement and concealment at the vinyl siding edges.
6. Install new vinyl siding where the existing siding was removed. Secure horizontal panels by placing nail in center of slot. Drive nails straight, leaving 1/16 inch (1.6 mm) space between nail head and flange of panel.
7. Allow space between both ends of siding panels and trim for thermal movement. Overlap horizontal panel ends one-half the width of factory pre-cut notches. No field cut laps allowed.
8. Stagger lap joints in horizontal siding in a non-uniform pattern as successive courses of siding are installed.
9. Allow water to channel out from behind the siding and J-channel.

G. Drip Edge

1. Install the sheet metal drip edge directly on the deck tight with the fascia cladding along the eaves. Install the drip edge over the underlayment along the rakes. Fasten the drip edge 12-inches on-center with roofing nails. Shingle lap the end joints 2-inches.

H. Eaves Flashing

1. The eaves flashing shall be fully-adhered to the roof deck and lapped in accordance with the eaves flashing membrane manufacturer's recommendations. See the RTA Roof Plan for eaves flashing locations.
2. Install eaves flashing membrane at the eaves edges over conditioned spaces. The eaves flashing shall extend from the eaves up the roof slopes a minimum of two full width sheets. The eaves flashing shall be installed over the flange of the drip edge at the eaves and below the flange of the drip edge at the rake edges.
3. Install two full width sheets of eaves flashing in the valleys parallel with the valley center line. Lap the sheets of eaves flashing in accordance with the RTA Details. The eaves flashing protection shall extend 24-inches on each side of the valley center line. Lap end joints a minimum of 6-inches. Lap the adjacent felt underlayment onto the valley eaves flashing a minimum of 6-inches.

4. Install 4 full width sheets of eaves flashing at the building entrances.
 5. Install eaves flashing membrane up the adjacent side and front walls and at the dormers and elevation changes. Provide full wall coverage where possible. Minimum wall coverage height: 6-inches. Lap the eaves flashing onto the adjacent roof deck felt underlayment 6-inches minimum as shown in the RTA Details.
 6. Strip in the top edge of the step flashing and apron flashing located on the walls receiving new vinyl siding.
 7. Install full coverage of eaves flashing membrane behind the vinyl siding at the side wall elevation change.
 8. Install eaves flashing membrane at the rooftop penetration locations. Extend the eaves flashing onto the deck a minimum of 12-inches in all directions. Provide additional eaves flashing stripping on the edges of the penetration flashing flanges.
 9. Install additional sheets of eaves flashing in susceptible leak locations as shown on the Roof Plans.
- I. Underlayment
1. Install one-ply of felt underlayment over the entire surface of the steep-sloped roof decks. Install the underlayment in accordance with NRCA Section 3.2.1 and Figure 2 and RTA Details.
 2. The underlayment shall be secured with as many fasteners as necessary to hold it in place. The underlayment shall be installed parallel to the eaves, shall overlap each proceeding course a minimum of 2-inches and shall be lapped at end laps a minimum of 4-inches. End laps in adjacent courses of underlayment shall be staggered a minimum of 6 feet.
 3. The underlayment shall lap onto the eave flashing membrane a minimum of 4-inches near the eaves and 6-inches onto the eaves flashing in the valleys (see RTA Details).
- J. Valley Flashing
1. Center a 36-inch wide strip of 90 pound mineral-surfaced roll roofing up the entire length of the valleys with the mineral surface side facing up (see RTA Details). Press the sheet into the valleys. Trim the lower edge flush with the eaves drip edge. If two or more strips of roll roofing are required, lap the upper piece over the lower a minimum of 12 inches. Seal the lap with roofing cement. Secure the strip with a minimal amount of fasteners along a line one-inch from the upper edges.
- K. Shingle Installation
1. Install the shingles in accordance with the manufacturer's specifications and recommendations.
 2. Use chalk lines to align the shingles both vertically and horizontally during installation. CHALK LINE USE IS MANDATORY.
 3. Secure the shingles in accordance with the shingle manufacturer's requirements, using a minimum of four nails per full shingle, or two per shingle tab. Do not nail into or above the factory applied adhesive or above the nail lines stamped on the shingles to ensure that each nail is driven through two layers of shingles.
 4. NOTE: Exposed nails (fasteners driven too low) and the punctured shingle must be removed and replaced. Covering nail heads with sealant in the field of the roof is not acceptable.

5. Install shingles in the valleys using the "closed-cut" method in accordance with NRCA Section 3.6.3.2 and Figure 15 (see Appendix). Begin installing shingles on the roof area with the lowest slope, or if slopes are equivalent, on the side with the shortest distance to the ridge. Extend shingles through the valley extending a minimum of 12-inches onto the adjacent slope. Clip the upper corner from the end of each shingle on the cut side of the valley to direct water into the valley.
6. Install the selected shingle manufacturer's premium ridge and hip cap shingles in accordance with the shingle manufacturer's requirements.

L. Vents

1. Install two rows of continuous strip soffit vents in the new soffit panels (see RTA Details). The installation shall be in accordance with the soffit vent manufacturer's requirements.
2. The Contractor must hire a licensed electrician to perform electrical demolition, modifications and connections of new power vents.
3. Provide electrical conduit, wiring, junction boxes, connectors, clamps, etc. as required by electrical code to supply electricity to the new power vent locations.
4. Properly secure the thermostat/ humidistat control box to the structural supports near the new junction box. Wire the control box for electricity and adjust the controls for proper working order in accordance with the power vent manufacturer's requirements.
5. Properly engage the power vent flanges with the shingles. The flanges shall be set in continuous beads of elastomeric sealant. Secure the flanges with roofing nails as required to provide solid securement. Seal the nail heads with elastomeric sealant.

M. Step Flashing

1. Verify that the side walls to receive new step flashing are covered with eaves flashing in accordance with these specifications.
2. Install step flashing at all vertical side wall locations in accordance with NRCA Section 3.6.4.2 and Figure 19. Install the step flashing behind the existing trim cladding, trim boards, new vinyl siding or new reglet mounted counterflashing so the step flashing top edge is protected. Fasten the step flashing to the roof deck only. The bottom most (or first) step flashing card shall be installed to allow collected rain water and debris to be diverted back onto the roof (see NRCA Section 3.6.4.2 and Figures 20 and 21).
3. Reinstall the existing trim boards and trim cladding at the original positions. Provide new appropriate fasteners to provide solid securement.

N. Vertical Front Wall Flashing (Apron Flashing)

1. Install new sheet metal apron flashing at all front wall locations, at side wall locations as required and at building return locations. Install the flashing over the top course of shingles in accordance with ARMA Figure 35. Extend the flashing a minimum of 5-inches up the vertical surface and 4-inches onto the roof surface. Install the apron flashing with the top edge protected. Secure the apron flashing with roofing nails spaced 12-inches on center. Seal the nail heads with the specified sealant.

O. Reglet Mounted Counterflashing

1. Install new sheet metal counterflashing at the masonry walls in accordance with SMACNA Figure 4-8A and RTA Details. Secure the counterflashing in the reglet with lead wedges spaced 12-inches on-center or a minimum of two wedges per length. Seal the top edge of the counterflashing with the specified sealant and tool the joint to promote adhesion and water shedding.

P. Plumbing Vent Stack Flashing

1. Install the specified lead flashing at the vent stacks in accordance with NRCA Detail No. ASPH-8. Properly lap the shingle courses with the flashing flange. Set the flange in a bed of roof cement. Trim the shingles to closely fit around the vent flashing and set the shingle tabs into a bead of roof cement. Turn the sleeve into the pipe no less than one-inch.

Q. Hot Vent Stack Flashing

1. Prime and apply two paint coats of the specified paint on the vent stacks, storm collars and rain caps in accordance with the paint manufacturer's requirements.
2. Reinstall the storm collars and cover the top of the vent stack sleeve openings. Apply a continuous bead of the specified sealant around the top edge of the storm collar and tool the joint.
3. Reinstall the rain cap flashing on the vent stack. Fasten the rain cap as to resist wind damage.

R. Gutters and Downspouts

1. Install new prefinished seamless aluminum gutters along the eaves edges. Secure and seal the joints between gutter sections and fabricated corners, outlet tubes and end caps using pop rivets and the specified sealant. Pop rivet spacing: 2-inches maximum. Secure the gutter to the fascia with hidden gutter hangers spaced 24-inches on center. Positively slope the gutters to drain.
2. Install new prefinished aluminum downspouts to drain the gutters in the original locations. The downspouts shall be attached to the gutters in accordance with SMACNA Figure 1-33B, Detail 1. Secure the new downspouts to the walls with sheet metal straps and appropriate fasteners. A minimum of two straps is required per downspout.
3. Install downspout extensions to extend discharge water 3-feet minimum away from the building foundation. Do not discharge water onto sidewalks; avoid discharge onto drives where possible. The downspouts on the east side of the building shall be connected to the newly provided below grade drain pipes. Provide properly sized plastic adapters to connect the downspouts to the drain pipes. Mechanically fasten the adapters to the downspouts and the drain pipes.
4. Install new water diverters at inside gutter corners and at locations below the valley bases. Water diverters are to be installed on the gutters only. Seal the fastener heads with the specified sealant.

S. Lightning Protection Cable Flashing and Air Terminal Installation

1. Feed the existing lightning protection cable through the new goos neck flashing. Resecure the existing lightning protection cable.
2. Properly engage the goose neck flashing flange with the shingles. The flange shall be set in continuous beads of elastomeric sealant. Secure the flanges with roofing nails as required to provide solid securement. Seal the nail heads with elastomeric sealant.
3. Reinstall the air terminals in their original positions. Provide new air terminals at missing locations. Seal the new ridge cap shingles to the existing air terminal bases.

T. Heat Trace Installation

1. The Owner has requested that the heat trace cable be installed in the new gutters and downspouts only. Provide the heat trace installation in the gutters and downspouts in accordance with the manufacturer's requirements and installation instructions. Test the

system for proper working order.

U. Miscellaneous

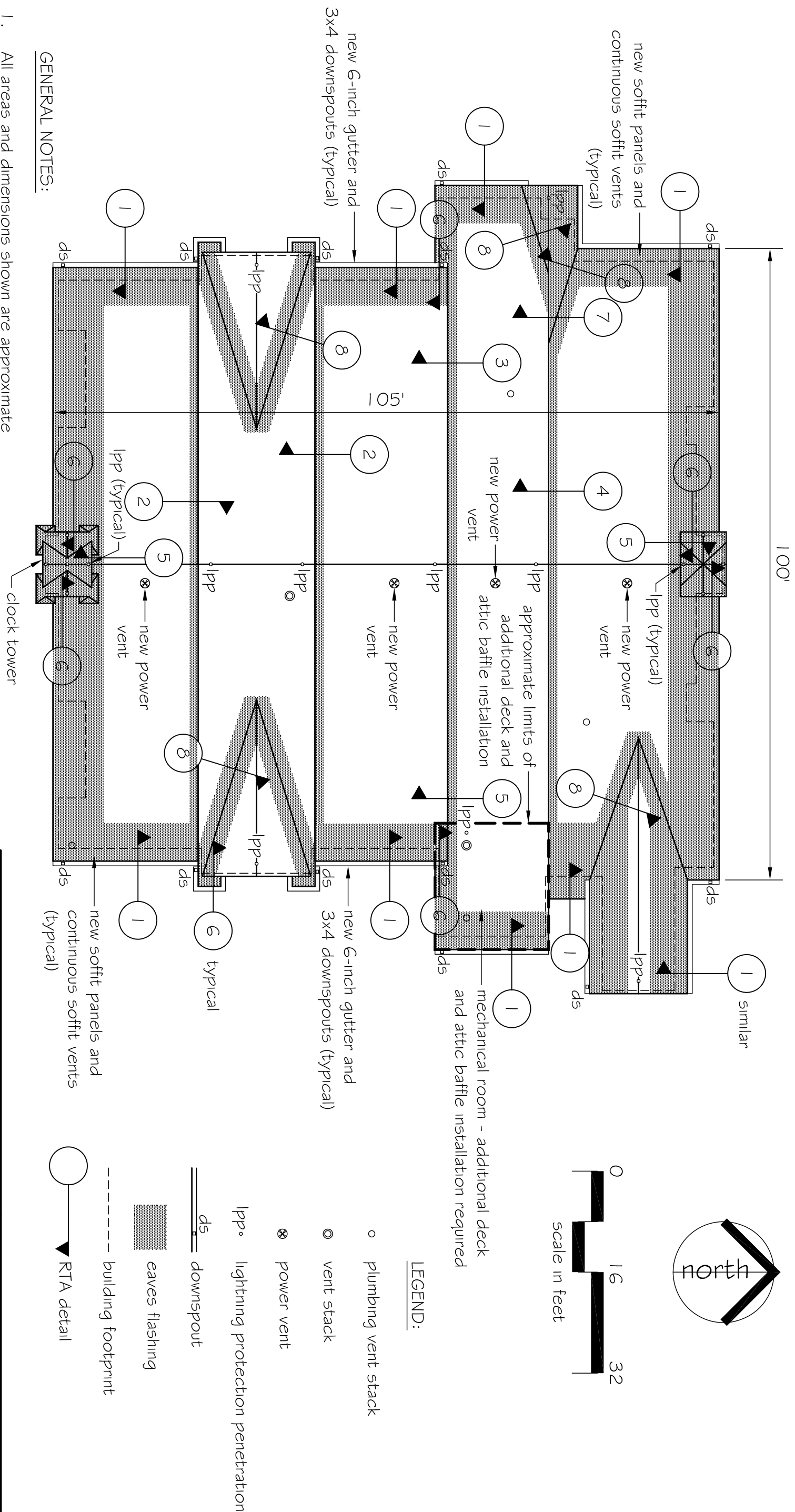
1. Resecure loose trim cladding, soffit or trim boards as originally secured.
2. Apply the specified sealant over all exposed fastener heads at the ridge caps, vent flanges and apron flashings.

END OF SECTION

APPENDIX

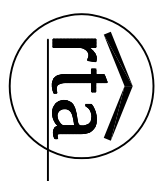
Plymouth Township Fire Station No. 3 – Roof PlanPlate 1

Roof Details 1 through 8Details 1 through 8



GENERAL NOTES:

1. All areas and dimensions shown are approximate and based upon rough field measurements taken by representatives of Roofing Technology Associates, Ltd.
2. This drawing should not be used for bidding or estimating purposes. Contractors are responsible for their own field measurements, quantities and verification of conditions shown.

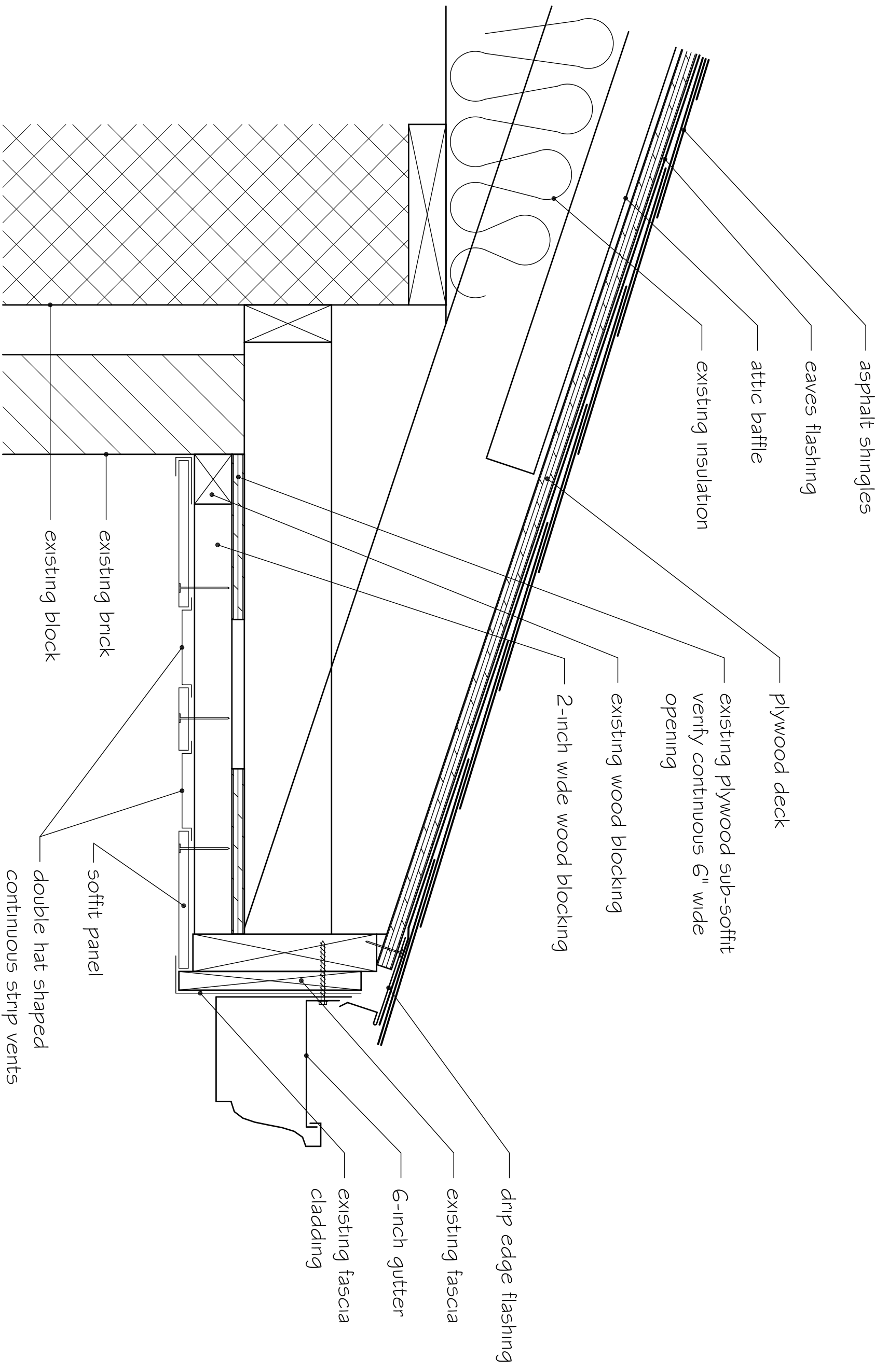


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ROOF PLAN

PLYMOUTH TOWNSHIP FIRE STATION NO. 3
 13600 BECK ROAD
 PLYMOUTH, MICHIGAN

Project No:	11-053	Drawn By:	RDK	Plate No:	1
Date:	8-24-11	Checked By:	RDK		



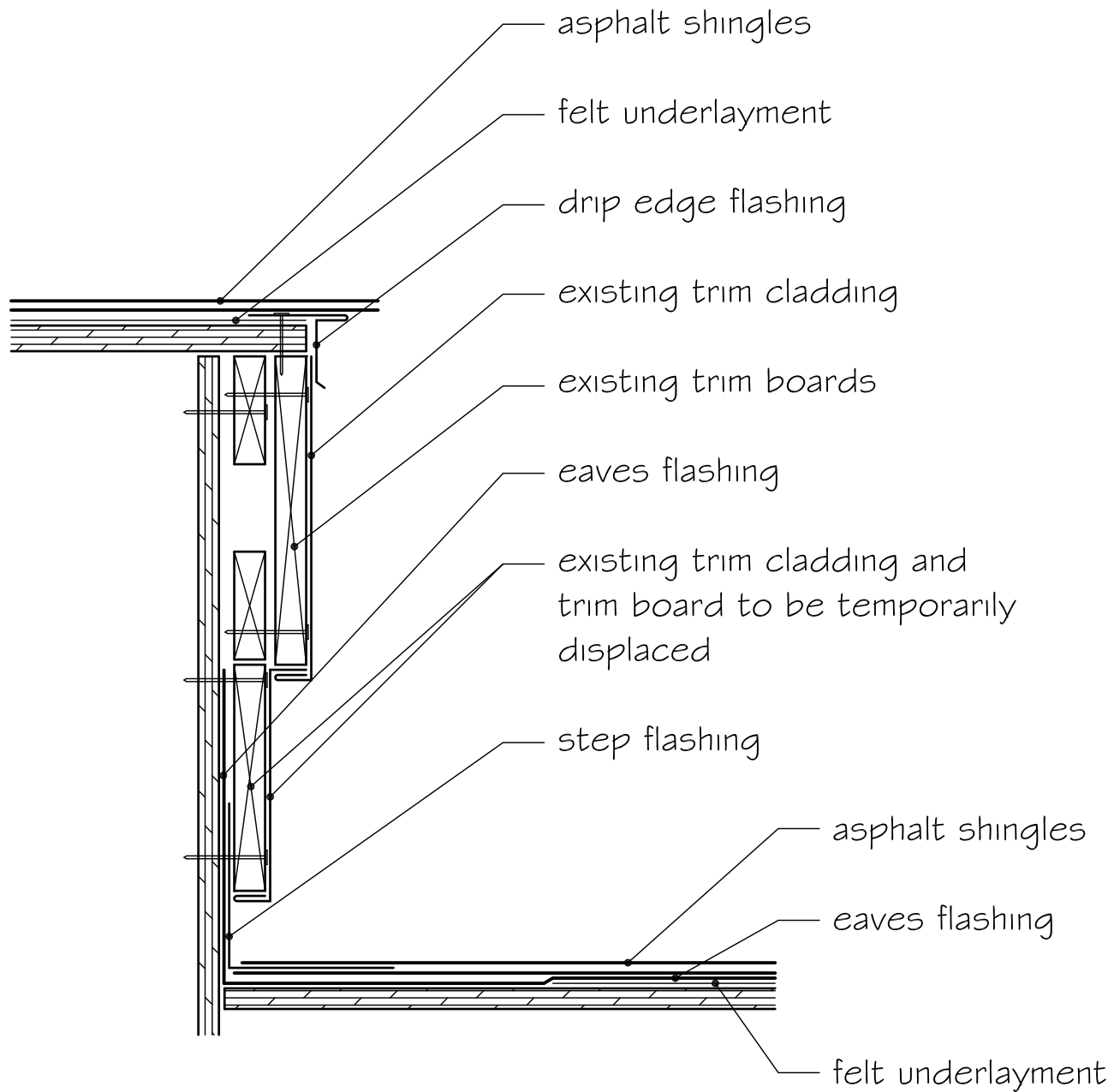
NOTE: components shown are new unless noted as existing



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 13600 BECK ROAD
 PLYMOUTH, MICHIGAN

<i>Project No:</i> 11-053	<i>Drawn By:</i> RDK	<i>Detail No:</i> 1
<i>Date:</i> 8-24-11	<i>Checked By:</i> RDK	



WALL FLASHING
not to scale

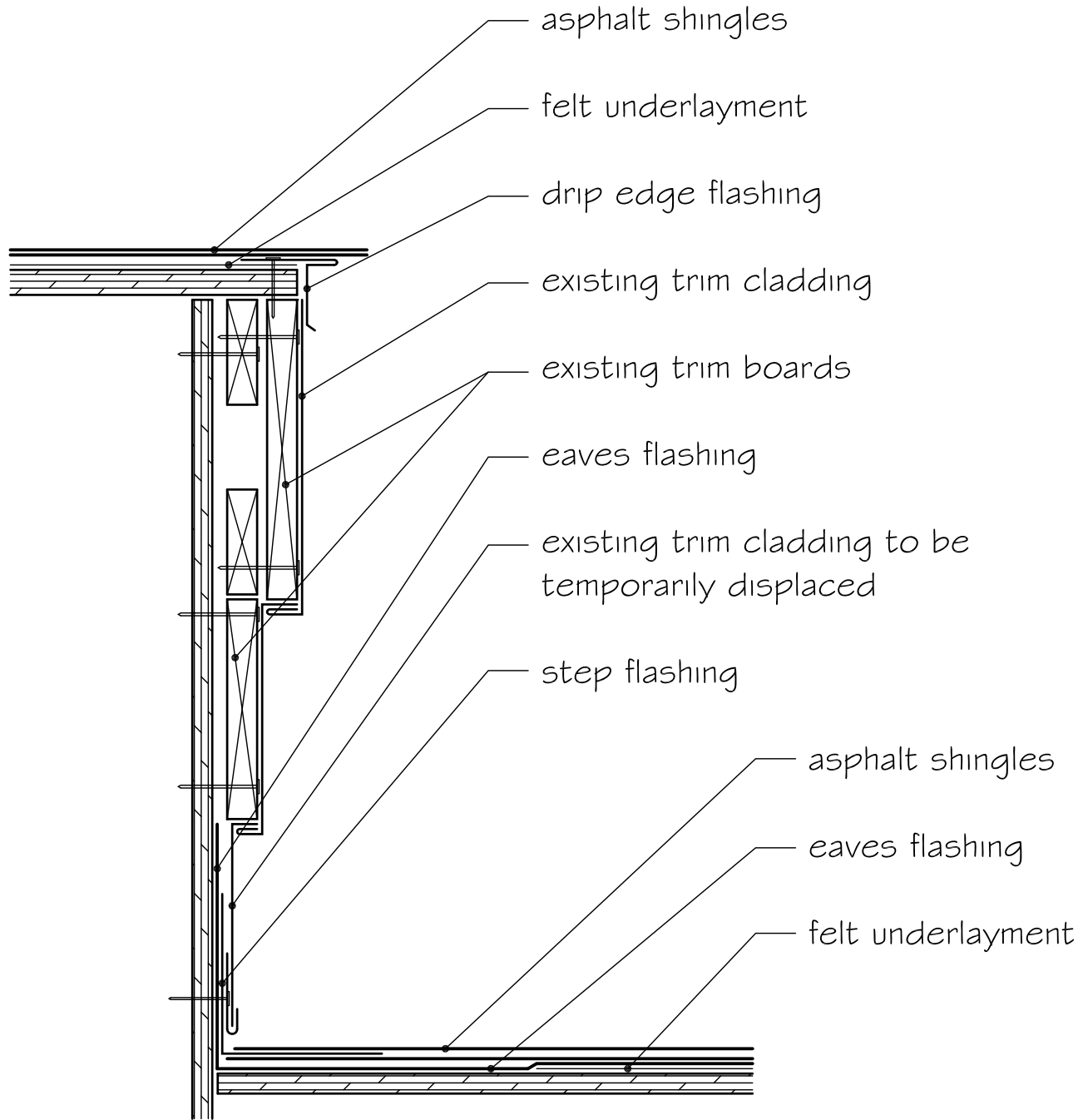
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PLYMOUTH TOWNSHIP FIRE STATION NO. 3
13600 BECK ROAD
PLYMOUTH, MICHIGAN

<i>Project No:</i> 11-053	<i>Drawn By:</i> RDK	<i>Detail No:</i> 2
<i>Date:</i> 8-24-11	<i>Checked By:</i> RDK	



WALL FLASHING
not to scale

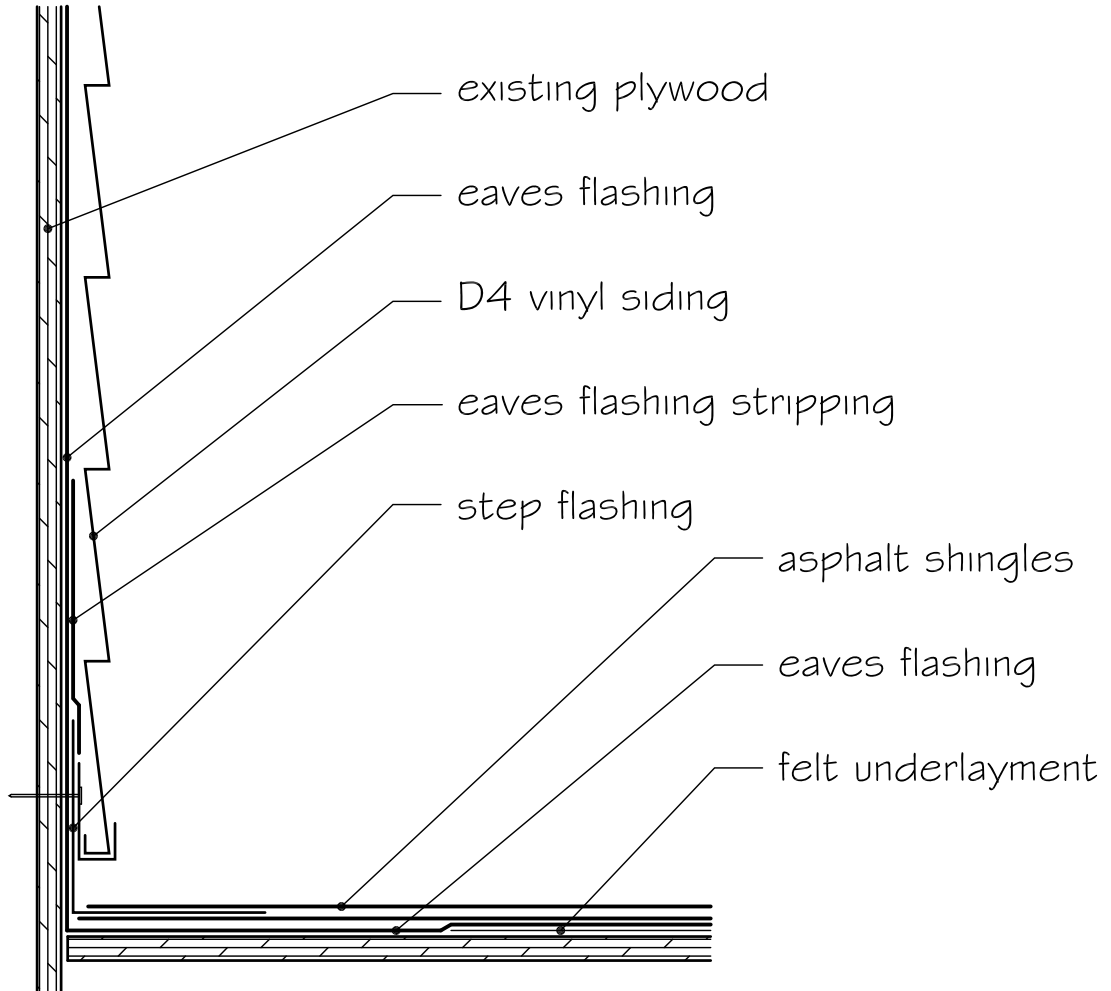
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13600 BECK ROAD
PLYMOUTH, MICHIGAN

<i>Project No:</i> 11-053	<i>Drawn By:</i> RDK	<i>Detail No:</i> 3
<i>Date:</i> 8-24-11	<i>Checked By:</i> RDK	



WALL FLASHING
not to scale

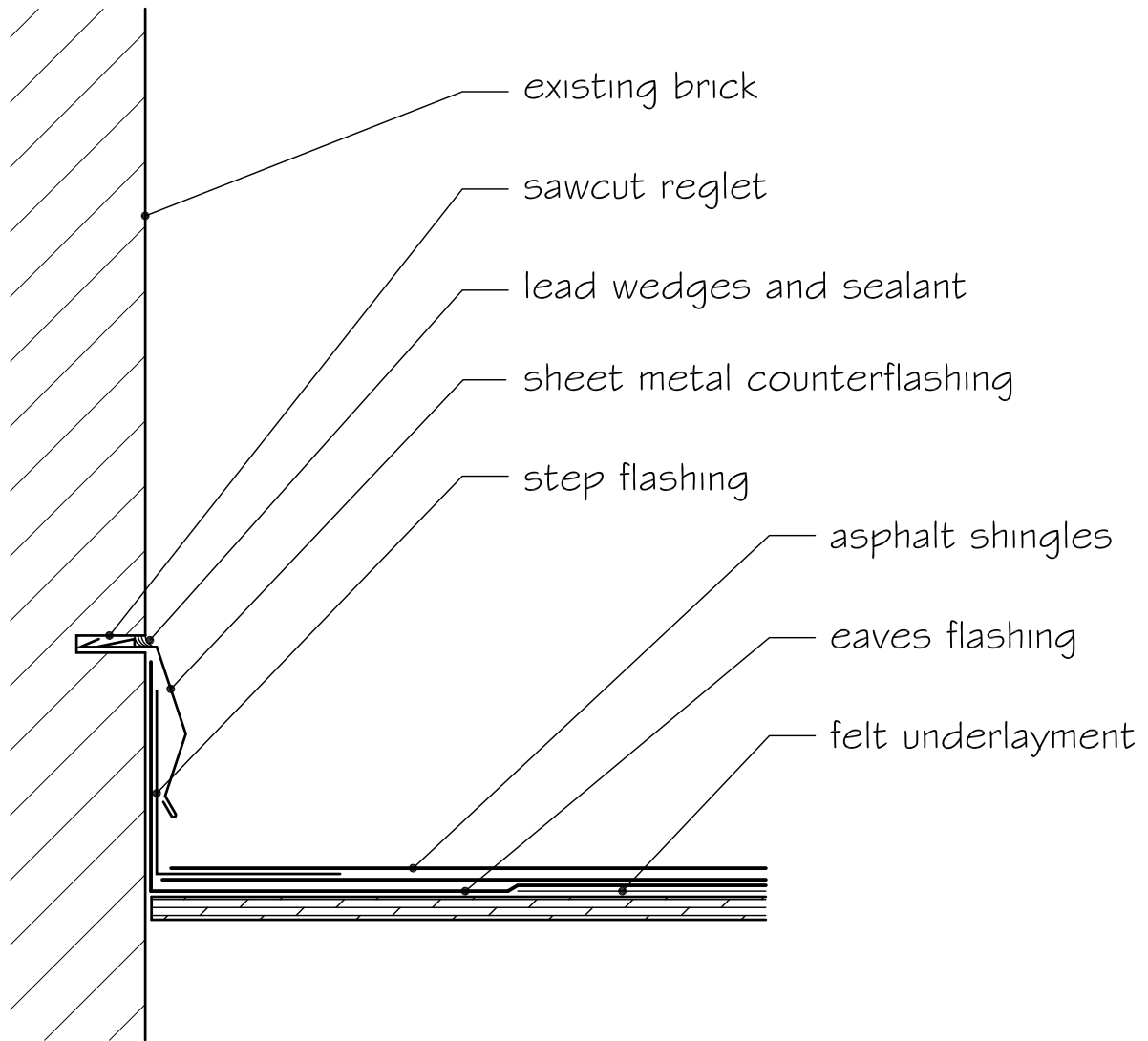
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13600 BECK ROAD
PLYMOUTH, MICHIGAN

<i>Project No:</i> 11-053	<i>Drawn By:</i> RDK	<i>Detail No:</i> 4
<i>Date:</i> 8-24-11	<i>Checked By:</i> RDK	



WALL FLASHING
not to scale

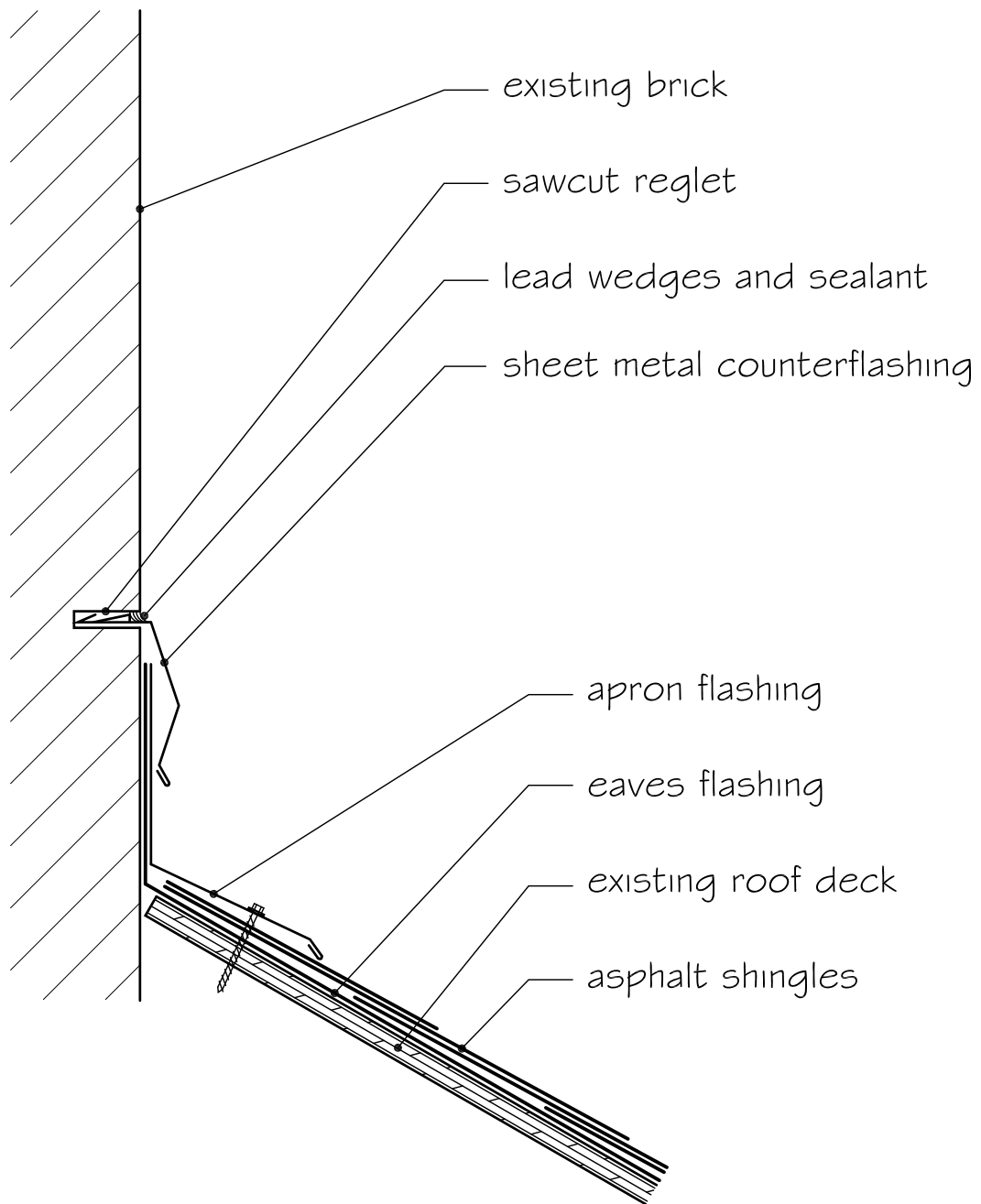
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PLYMOUTH, MICHIGAN

<i>Project No:</i>	11-053	<i>Drawn By:</i>	RDK	<i>Detail No:</i>	5
<i>Date:</i>	8-24-11	<i>Checked By:</i>	RDK		



APRON FLASHING
not to scale

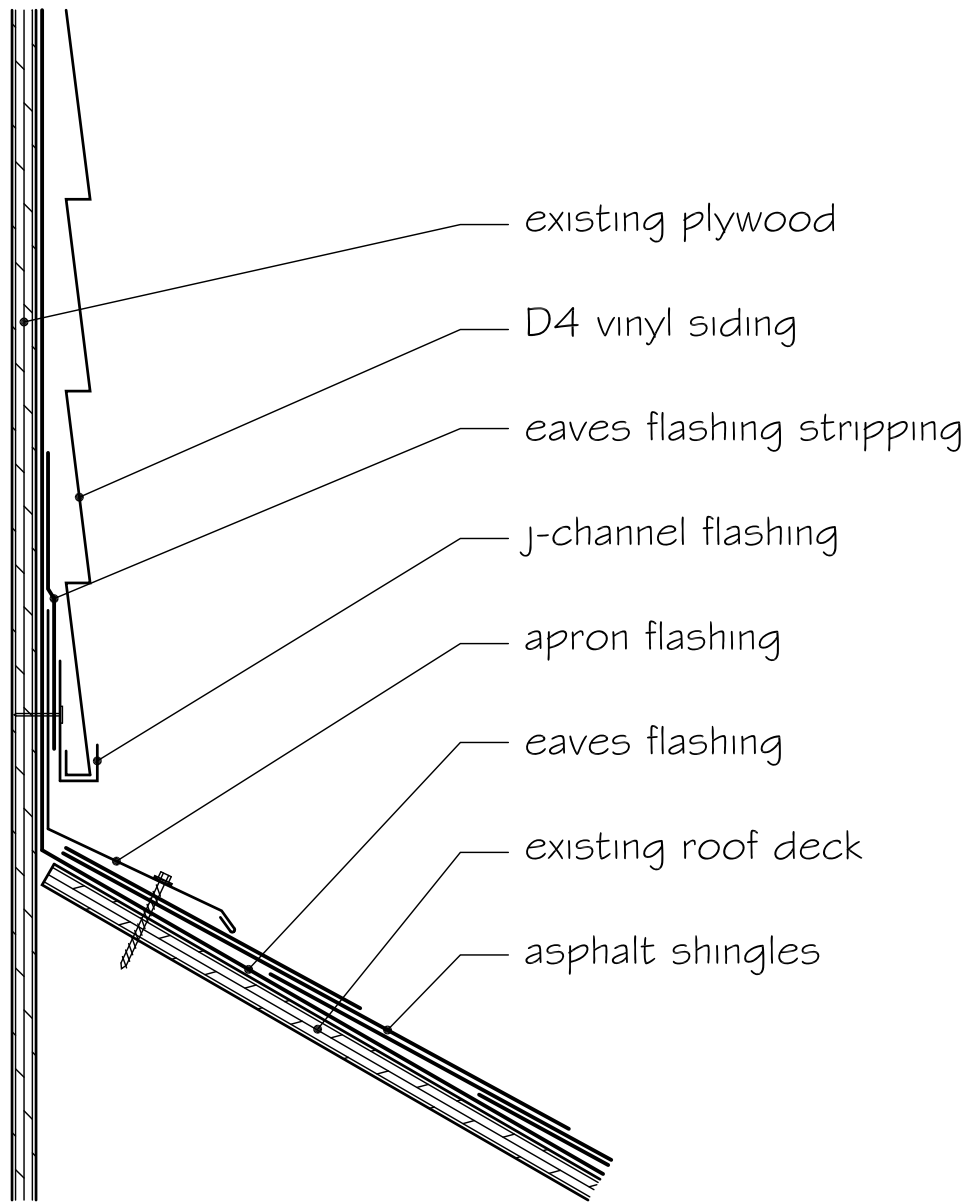
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<i>Date:</i>	8-24-11	<i>Checked By:</i>	RDK		



APRON FLASHING
not to scale

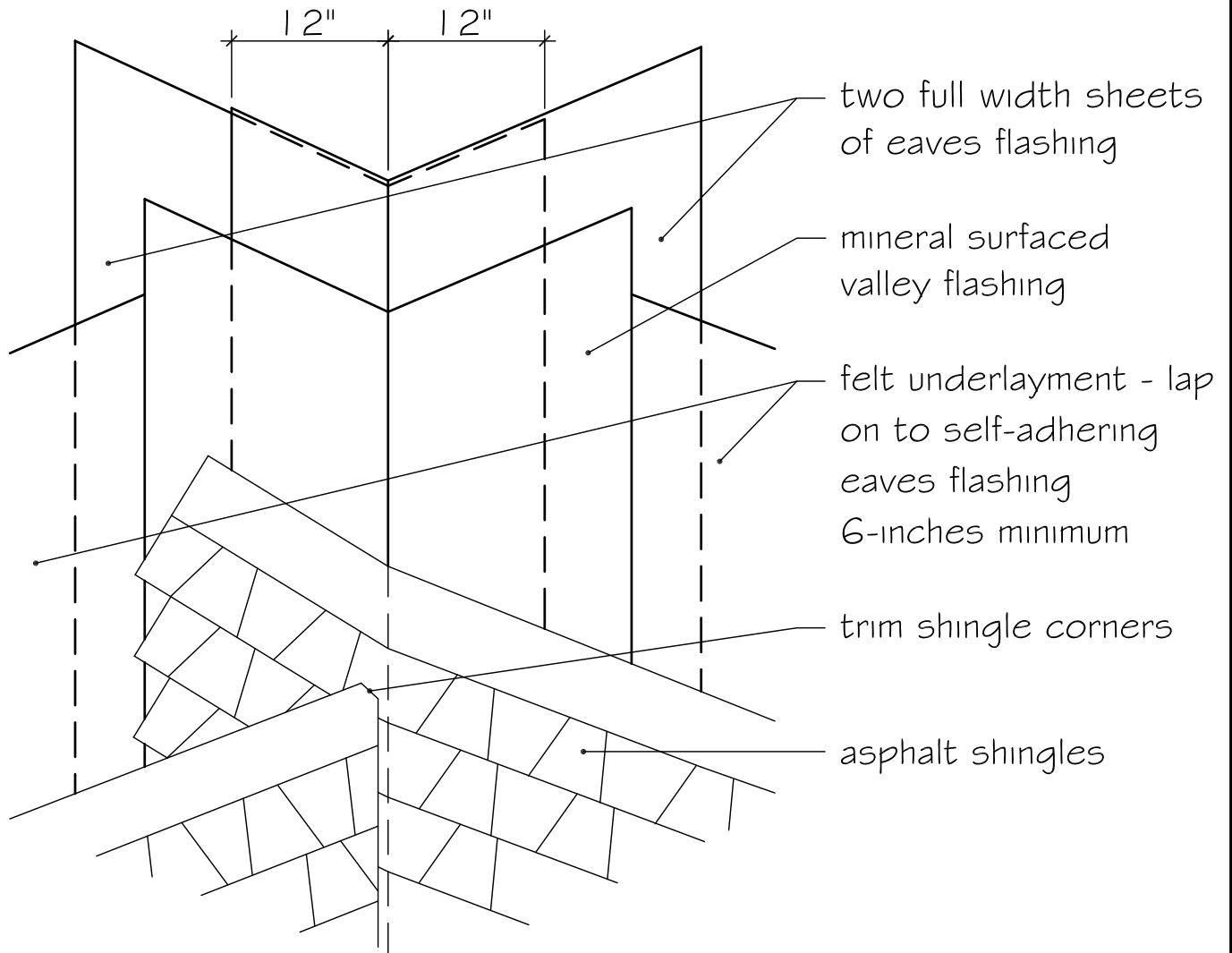
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<i>Project No:</i>	11-053	<i>Drawn By:</i>	RDK	<i>Detail No:</i>	7
<i>Date:</i>	8-24-11	<i>Checked By:</i>	RDK		



CLOSED CUT VALLEY
not to scale

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<i>Project No:</i>	11-053	<i>Drawn By:</i>	RDK	<i>Detail No:</i>	8
<i>Date:</i>	8-24-11	<i>Checked By:</i>	RDK		