ROOF REPLACEMENT

174 MILK STEET FITCHBURG, MA

FITCHBURG HOUSING AUTHORITY

50 DAY STREET FITCHBURG, MA

LIST OF DRAWINGS:

D1 SELECTIVE ROOF DEMOLITION
A1 NEW ROOFING PLAN
A2 NORTH ELEVATION
A3 WEST ELEVATION
A4 SOUTH ELEVATION
A5 EAST ELEVATION

SPECIFICATION SECTIONS:

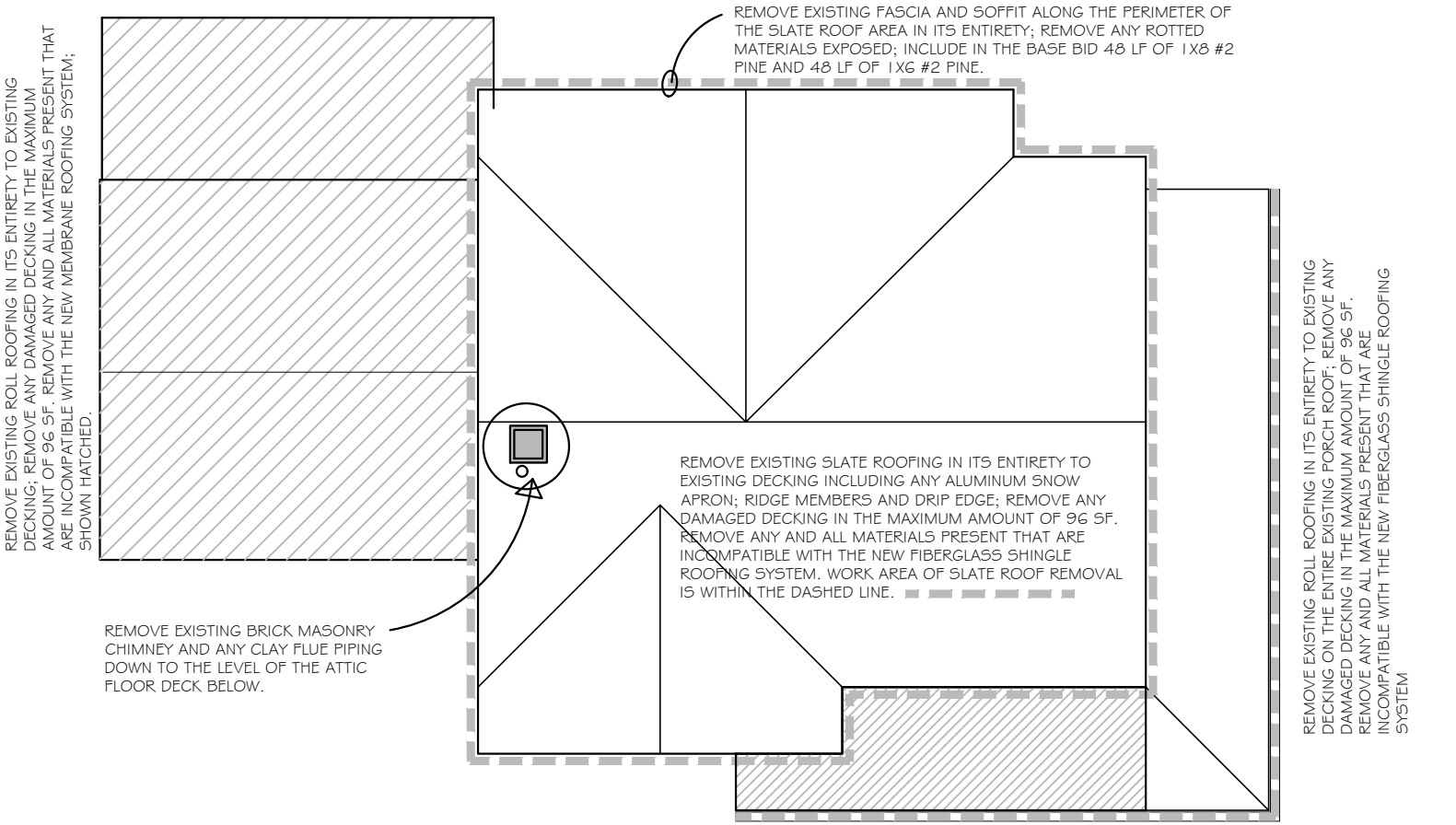
02 41 00 SELECTIVE DEMOLITION
07 30 00 ASPHALT SHINGLES
07 50 10 MEMBRANE ROOFING
07 62 00 SHEET METAL FLASHING +TRIM

30 October 2020

ARCHITECT:
Richard Alvord Architects
9 Birch Street Suite 4
Roslindale, MA 02131
617 325 3216

GENERAL DEMOLITION NOTES

1. Prior to commencement of work, the Contractor shall secure all required permits, approvals, etc. from all respective departments, agencies, commissions, boards, etc. having jurisdiction and shall submit one (1) copy of such to both the Architect, the Fitchburg Housing Authority
2. All work shall be performed in accordance with the Commonwealth of Massachusetts State Building Code, 780 CMR, Current Edition and all other applicable laws, codes, rules and regulations of all other applicable departments, agencies, commissions, boards etc. having jurisdiction, as well as common trade practices.
3. The Contractor shall coordinate all operations of demolition and removal with the Building Owner and tenant.
4. The existing conditions shown have been based on visual observations only and are not the result of an in-depth investigation into the structure itself. It is the Contractor's responsibility to conduct in-depth investigations and/or testing when unknown conditions arise. All dimensions related to existing construction are approximate unless otherwise noted. The Contractor shall notify the Architect of any discrepancies with, or conditions that are not shown on the contract drawings prior to proceeding with any work. Commencement of the work shall imply acceptance of all existing conditions.
5. If the Contractor discovers asbestos or any other hazardous material, the Contractor shall immediately notify the Owner and shall immediately stop disturbing said material. The Owner shall notify the Contractor when it is permissible to resume work based on review and approval by the Owner's appropriate Consultant.
6. All debris and demolished material shall be removed from the site and disposed of properly and in approved containers at the end of each work day.
7. All exits shall be kept readily accessible and unobstructed at all times. Required means of egress through construction areas must be maintained.
8. The Contractor shall ensure that the structural integrity of the building shall be maintained throughout all operations of demolition and construction. The Contractor shall provide all temporary shoring necessary to brace the building during construction.
9. The Contractor shall provide all necessary protections, including but not limited to, signage, lighting, temporary flooring and partitions as required to safeguard the public safety, health and welfare throughout all operations of demolition and construction.
10. Protect existing roof decking and structure from water damage after existing roofing materials are removed and before new materials are installed.
11. Do not install any new materials on damaged or wet materials.



1 ROOF DEMOLITION PLAN

SCALE: 1/8" = 1'- 0"

ROOF REPLACEMENT

Client:
Fitchburg Housing Authority

174 MILK STREET
City of Fitchburg
Massacusetts

DATES:
30 OCTOBER 2020

RICHARD ALVORD ARCHITECTS
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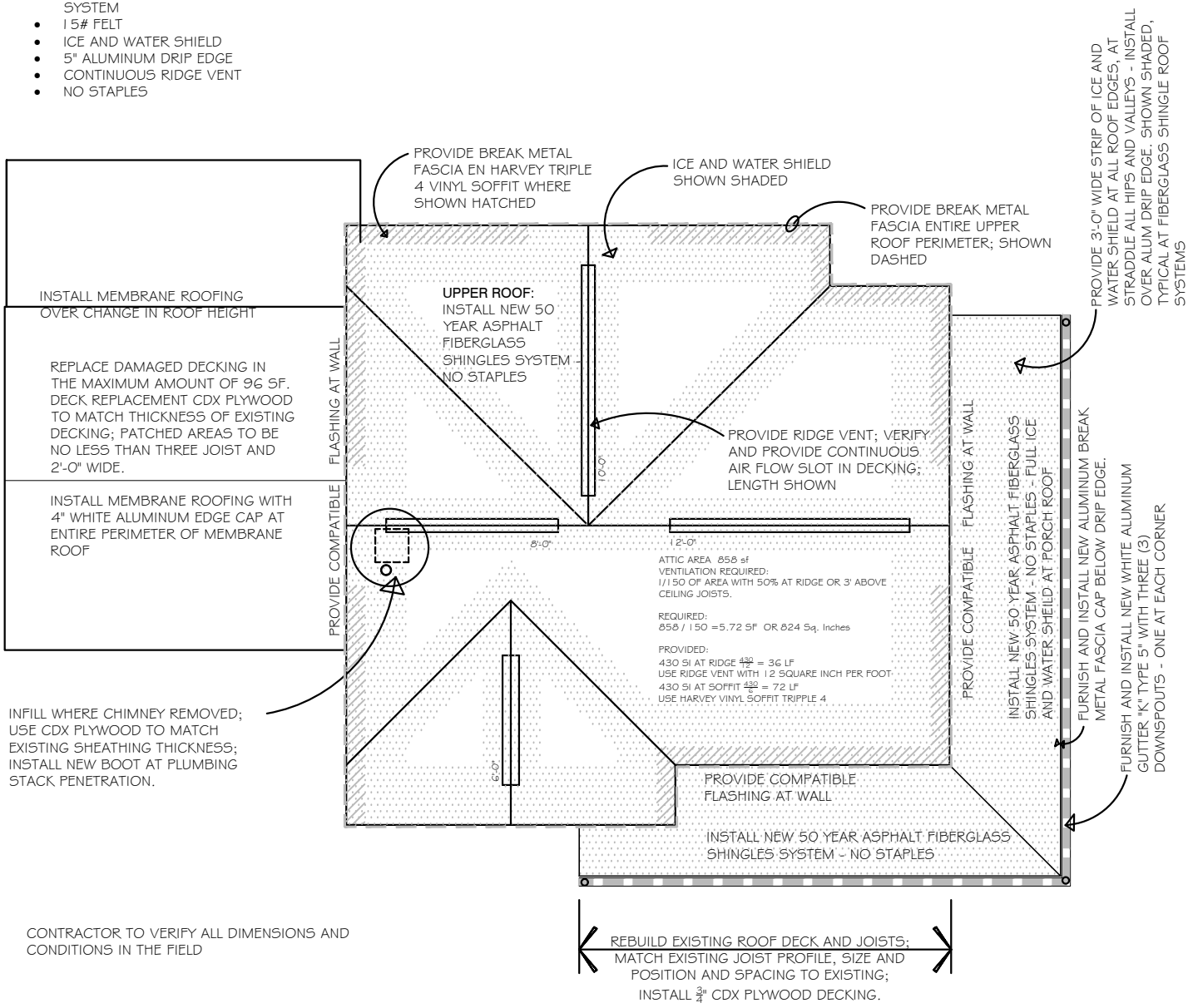
SELECTIVE ROOF DEMOLITION

D1

ASPHALT ROOF SYSTEM:

- 50 YEAR ASPHALT FIBERGLASS SHINGLES SYSTEM
- 15# FELT
- ICE AND WATER SHIELD
- 5" ALUMINUM DRIP EDGE
- CONTINUOUS RIDGE VENT
- NO STAPLES



CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD

1 NEW ROOFING PLAN

SCALE: 1/8" = 1'- 0"

ROOF REPLACEMENT

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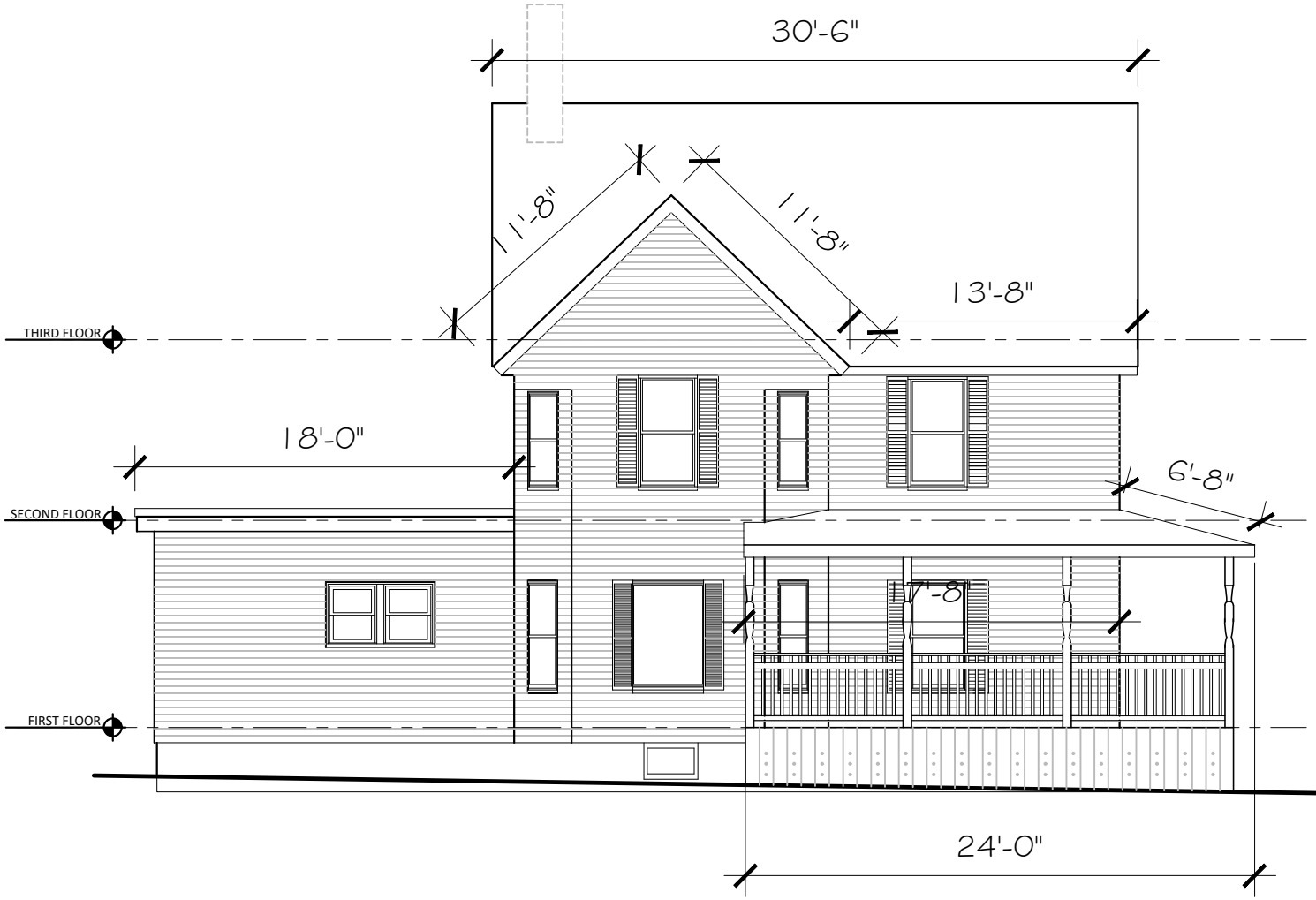
NEW ROOFING PLAN

A1



CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD

1 NORTH ELEVATION

SCALE: 1/8" = 1'- 0"

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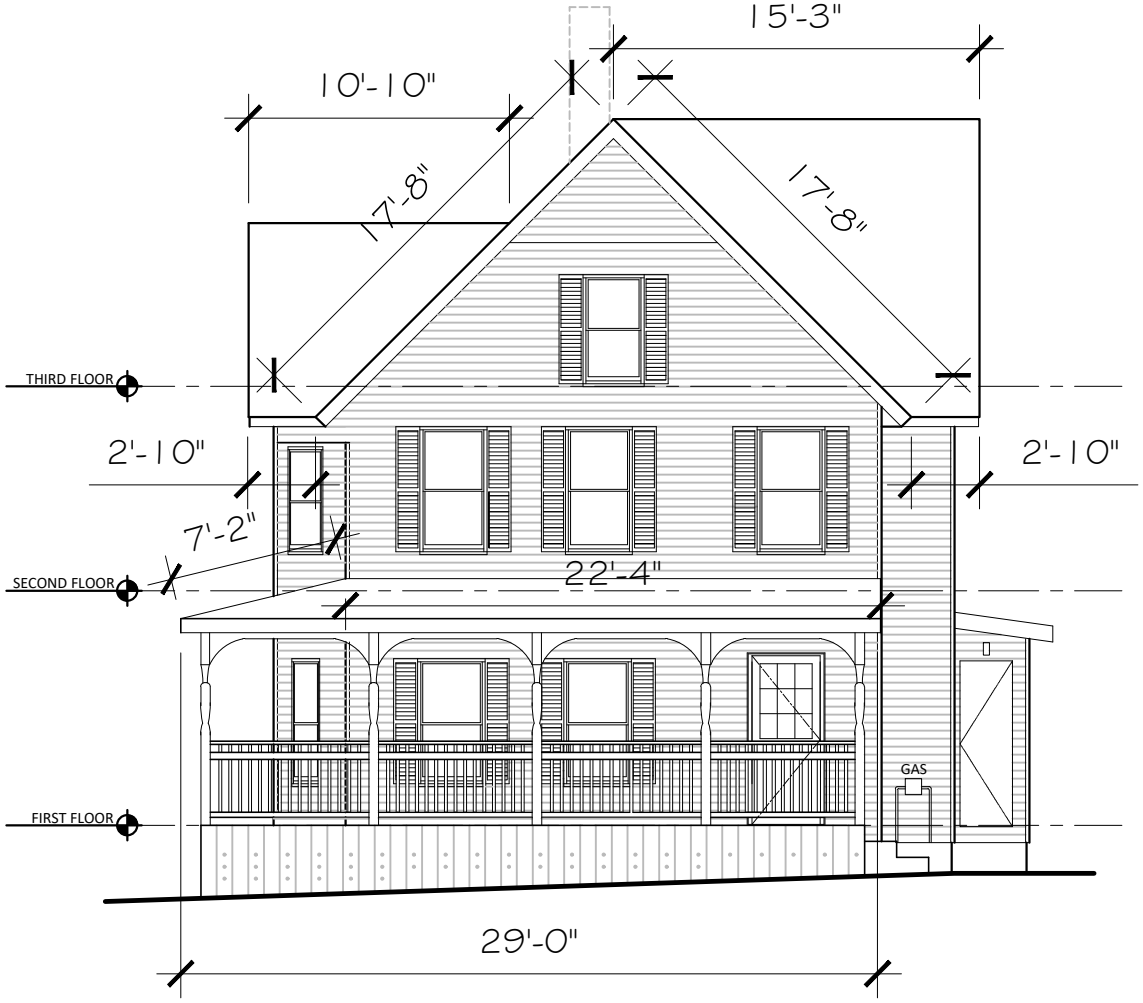
NORTH ELEVATION

A2



CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD

1 WEST ELEVATION

SCALE: 1/8" = 1'- 0"

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30 OCTOBER 2020

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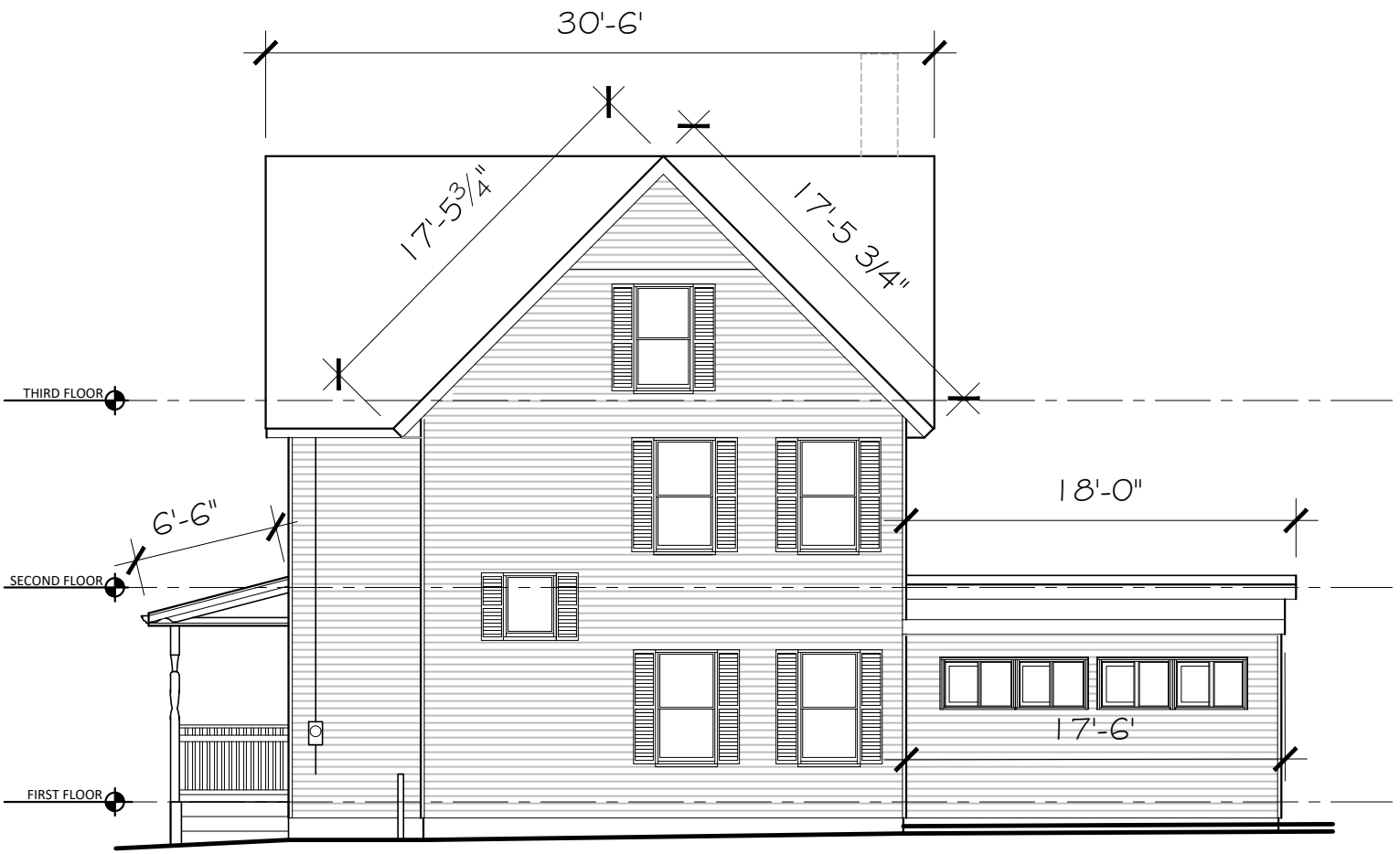
WEST
ELEVATION

A3



CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD

1 SOUTH ELEVATION

SCALE: 1/8" = 1'- 0"

ROOF REPLACEMENT

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City of Fitchburg
Massacusetts

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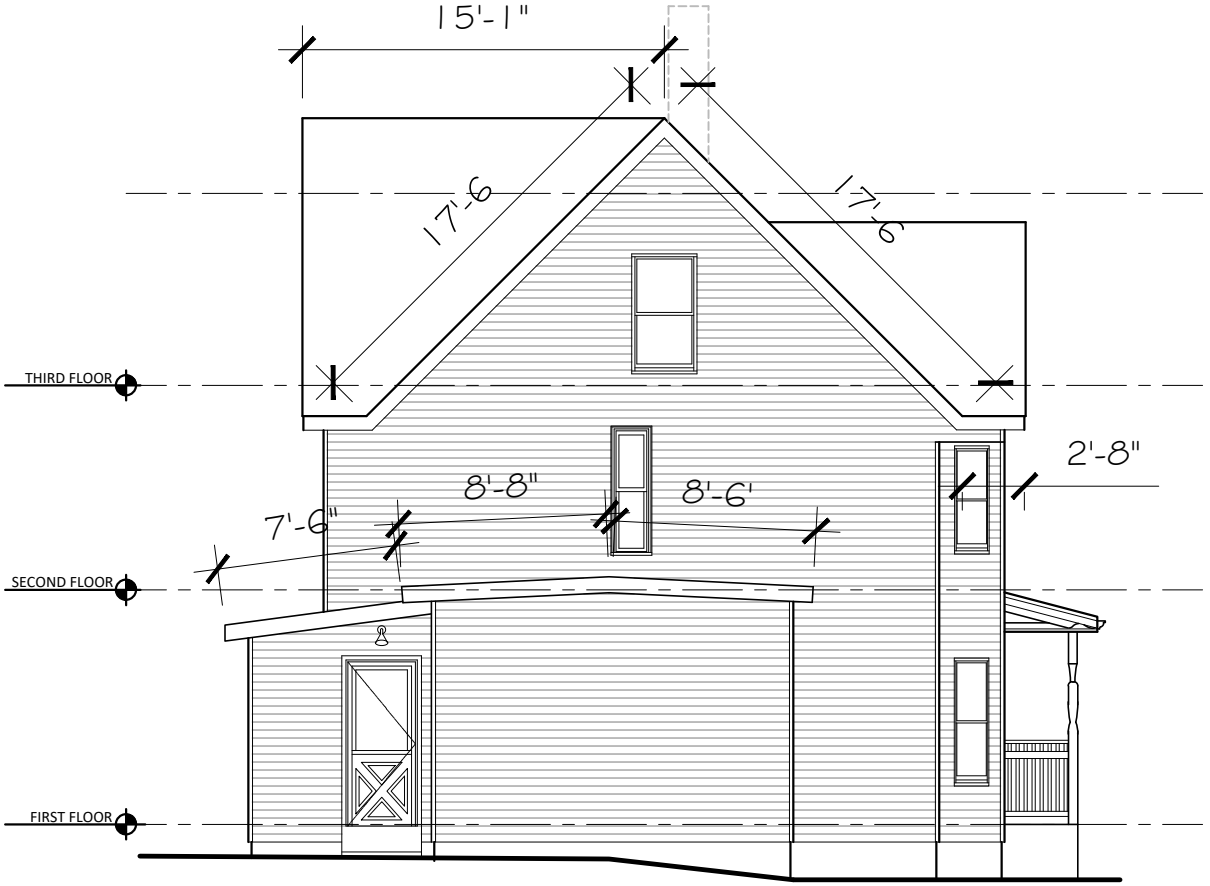
SOUTH ELEVATION

A4



CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD

1 EAST ELEVATION

SCALE: 1/8" = 1'- 0"

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EAST
ELEVATION

A5

SECTION 02 41 00
SELECTIVE DEMOLITION

Part I - **General**

1.01 **General**

Scope of work: The scope of work, without limiting the generality thereof, consists of furnishing all labor and materials, plant, transportation, equipment, accessories, appurtenances, and services including building permits, necessary and/or incidental to the proper completion of demolitions, as shown on the drawings or described in the specifications, or as reasonably inferred from either, in the opinion of the Architect and/or Consultant, as being required, and includes:

A. Selective demolition where indicated:
B. Building envelope: Remove existing roofing materials (asphalt and slate roofing) to the decking; remove all drip edge; remove upper roof aluminum fascia to backer materials; remove decking for repairs for a total of 192 SF of CDX plywood, thickness to match existing decking;
C. Remove existing brick masonry chimney from roof to the deck in the attic floor including any clay flue piping.
D. Front porch roof: remove existing framing and decking on the side portion of the porch approximately 18’-0” (field verify); keep existing rafter for pattern to make new rafters. Framing to be removed to the top of the perimeter beam to remain.

1.02 **Related Sections**

A. Section 07 30 00 – Asphalt Shingles
B. Section 07 50 10 – Membrane roofing

1.03 **Reference Standards**

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2009.

1.04 **Schedule**

A. Prior to beginning the project, provide a schedule to the Housing Authority describing how long it is expected to spend in each unit. Project Schedule is to be approved by the Housing Authority prior to beginning work.
    1. The Contractor is responsible for coordinating work with the Housing Authority to allow proper notification to the Housing Authority as work is completed.
    2. Schedule may need to be adjusted due to the Housing Authority’s needs.
    3.

Part II - **Execution**

3.01 **General Procedures and Project Conditions**

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
    1. Obtain required permits.
    2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable

structures.
3. Provide, erect, and maintain temporary barriers and security devices.
4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
6. Do not close or obstruct roadways or sidewalks without permit.
7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from the Housing Authority.
C. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent structures.
3. Stop work immediately if adjacent structures appear to be in danger.
D. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

3.02 **Selective Demolition for Alterations**

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as shown.
2. Report discrepancies to the Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
C. Remove existing work as indicated and as required to accomplish new work.
1. Remove items indicated on drawings.
D. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch as specified for patching new work.

3.03 **Debris and Waste Removal**

A. Remove debris, junk, and trash from site.
B. Leave site in clean condition, ready for subsequent work.
C. Clean up spillage and wind-blown debris from public and private lands.
D. See Section 02 82 00 – Asbestos Abatement for removal and disposal requirements for asbestos containing materials.
E. Recycle all materials as called out in the Construction Waste Management and Disposal Spec. Section 01 71 19. Dispose of all waste legally.

END OF SECTION

SECTION 07 30 00
ASPHALT SHINGLES

Part I – **General**

1.01 **General Requirements**
A. The general provisions of the Contract, including General Conditions and Division 1 Specification Sections apply to this Section.

1.02 **Scope of Work**
A. The general scope of work consists of replacement of the asphalt shingle roofing system including but not limited to asphalt roof shingles, underlayment, rubberized membrane underlayment, aluminum drip edge, and other sheet metal flashings, ridge vents, starter strips, nails and other fasteners and plastic cement and other items required for a complete watertight installation.
B. Shingles, flashing and drip edge shall be completely removed and replaced over the entire roof.
C. Metal drip edge shall be installed on all edges including rakes and eaves.
D. Cut existing plywood roof sheathing and install new ridge vent on all roofs, if required. Contractor to include the cost for new ridge vents that will be required.

1.03 **Quality Assurance**
A. Provide certificate of compliance from shingle manufacturer for ASTM and UL Standards, indicating conformance to Contract requirements.
B. Maintain one (1) copy of manufacturer's application instructions on site.
C. All shingles shall have same Lot Number.

1.04 **Deliver, Storage and Handling**
A. Deliver materials in manufacturer's unopened, labeled bundles, rolls or containers.
B. Store materials to avoid water damage and store rolled goods on end. Comply with manufacturer's recommendations for job-site storage and protection.

1.05 **Job Conditions**
A. Substrate: Proceed with shingle work only after substrate construction and penetrating work have been completed.
B. Weather Conditions: Proceed with shingle work only when weather conditions are in compliance with manufacturer's recommendations and
   1. When substrate is completely dry;
   2. Absolutely no work will be done in the rain!;
   3. No shingle work shall be performed when the ambient air temperature is below 32 F.

1.06 **Specified Product Warranty**
A. In addition to those guarantees and warrantees required by the General Conditions, the Contractor shall provide:
   1. The manufacturer's standard warranty shall be a limited lifetime warranty from the date of substantial completion.
   2. The Contractor shall provide the Owner with a copy of the Bill of Sale for the Shingles clearly

indicating the product, quantity, purchase date and note indicating the project for which the product is intended.

3. Warranty Supplement – Shingle Manufacturer shall provide supplemental warranty covering labor and materials for a period of five (5) years from the date of substantial completion.
4. Satisfactory delivery of warrantees shall be precedent to final payment.

Part II – **Products**

2.01 **Asphalt Shingles**

A. Glass fiber mat base, ceramically colored/ UV resistant mineral surface granules across entire face of shingle; three-layer laminated shingle.
   1. Applicable Standards
      a. ASTM D 3018 Type I – Self Healing
      b. ASTM D 3462
      c. ASTM E 108 Fire Resistance: Class A
      d. ASTM D 3161 Class “F” or Wind Resistance
      e. UL 790 Fire Resistance: Class A
      f. UL 997 Wind Resistance
      g. Weight – 305 pounds per square
      h. Algae resistant

B. Available Products: Subject to compliance with the contract requirements, products which may be incorporated into the work include the following:
   1. Certainteed – Landmark TL
   2. GAF – Timberline HD
   3. Owens Corning – Duration Premium
   4. See Section 01 25 00 – Or Equals for substitution requirements. Or Equal approved by the Architect and the Department in accordance with the General Conditions.
C. The Contractor shall expect to provide one color of shingle as directed by the Owner.
D. Ridge Caps – Use Manufacturer’s Distinctive Ridge Caps designed for use with the product specified.

2.02 **Asphalt Plastic Cement**

A. Rubber reinforced asphalt cement with mineral fibers complying with ASTM D 4586 Type 1, ASTM D 3409 and federal Spec SS-C-153 Type 1 (Asbestos Free) designed for trowel application. Material shall be Karnak #19 Ultra Rubberized Flashing Cement or equal.

2.03 **Ridge Vent**

A. Provide continuous ridge vent complete with end caps. Use manufacturer’s distinctive ridge caps designed for use with the Specified product. Ridge Vent to be compatible with roof slope and designed to maximize airflow and minimize water infiltration. Net free vent area equal to 18 square inches per foot, by:
   1. Air Vent Inc. – Shinglevent II
   2. Easy-Up Single-Over Ridge Vent
   3. Alcoa – ROVAR
   4. VenturiVent Plus
   5. Coro-Vent – V-400

6. Or Equal approved by the Architect and Department in accordance with the General Conditions.

2.04 **Membrane Flashing Over Entire Roof Surfaces**

A. Provide cross laminated, high density self-adhering polyethylene membrane, 40 mils thick, 36" wide, with non-skid surface. Membrane must be compatible with shingles and saturated felt underlayment. Acceptable products include:
   1. WR Grace – Ice and Water Shield – 40 mil
   2. Certainteed – WinterGuard
   3. GAF – StormGuard
   4. Owens Corning – Deck Dri
   5. Or Equal approved by the Architect and Department in accordance with the General Conditions.

2.05 **Nails**

A. Hot dipped galvanized 11 or 12 gauge, sharp pointed, conventional roofing nails with barbed shanks, minimum 3/8" head and of sufficient length to penetrate through sheathing. Nails shall meet ASTM A-153 Hot Drip Galvanizing Specification.

2.06 **Aluminum Drip Edge**

A. Minimum .024" Aluminum sheet style "D" drip edge, brake formed to provide a minimum 1 ¼" inch flange with 3/8" drip at lower edge by minimum 6 ½" roof deck flange. Furnish in 8'-0" or 10'-0" lengths. Do not install drip edge in pieces shorter than 24". Color to be selected by the Architect.

2.07 **Roof Jacks**

A. Dryer Vents and Exhaust Fans
   1. Provide VentAir Products – RCVS Series Roof Cap Vent with stem and one way damper. Size Cap and stem to match existing vent duct. Color to be selected by Architect.

B. Attic Ventilation
   1. Provide Vent Air Products – RCV4 Roof Exhaust Vent Roof Cap or Master Flow SSB960A, Color to be selected by Architect.

2.08 **Roof Plumbing Vent Flashings**

A. Furnish and Install new Oatey Aluminum Base no-caulk Plumbing Penetration Flashing, or Equal, with black neoprene base at all plumbing penetrations, size to fit existing vent stack.

PART 3 – EXECUTION

3.01 **Inspection**

A. Examine substrates and conditions under which shingling work is to be performed and must notify the Owner in writing of unsatisfactory conditions. Do not proceed with shingling work until unsatisfactory conditions have been corrected.

3.02 **Preparation of Substrate**

A. Clean substrate of any projections and substances detrimental to shingling work. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with roofing nails.

Sweep substrate clean before application of underlayment and membrane.

B. Coordinate installation of shingles with flashing and other adjoining work to ensure proper sequencing. Do not install shingle roofing until all vent stacks and other penetrations through roofing have been installed and are securely fastened against movement.

3.03 **Roofing Installation**

A. General: Comply fully with instructions and recommendations of shingle manufacturer, except to the extent more stringent requirements are indicated in these Contract Documents.
B. Underlayment: Apply one layer of felt, free of wrinkles, over entire surface, lapping succeeding courses 19" minimum and 6' minimum at side laps, fastening with sufficient nails to hold in place until shingle application. Stagger side laps at least 24" at each consecutive layer.
C. Membrane Flashing at Ridges and Eaves: Furnish and install continuous strip of ice protection underlayment asphalt roll roofing over the entire roof. Provide sufficient protection membrane around the vent pipes and any other roof penetration. Provide 10" laps where required.
D. Membrane Flashing at Roof Vents: Cover metal flanges of roof vents with strips of rubberized membrane (12" wide. Minimum). Start at the bottom and lap sides and top to 3", minimum.
E. Shingles
   1. Install manufacturer's starter strip course of the specified shingles with tabs removed; fasten shingles in pattern, weather exposure and number of fasteners per shingle as recommended by manufacturer. Use chalk lines to ensure straight coursing.
   2. Inverting a course of shingles is NOT acceptable as a starter course.
F. Comply with installation details and recommendations of shingle manufacturer and NRCA Steep Roof Manual.
G. Flashing and Edge Protection: Install metal flashing, vent flashing and edge protection, as indicated, and in compliance with details and recommendations of the NRCA Steep Roof Manual.
H. Flashing at Vertical Walls: Build in-step flashing at each course of shingles as work progresses. Apply plastic cement at roof surfaces of each piece of flashing.

3.04 **Gutter and Downspouts**

A. Remove existing gutters and prepare fascia for new gutters. Cover existing Fascia boards with white aluminum break metal prior to gutter installation.
B. Furnish 5" "K"type aluminum gutters single piece at each run with corners and end caps.
C. Use gutter hangers for connection to fascia spaced 24" o.c.
D. General: install and adjust downspouts in accordance with Alcoa's instructions for installing aluminum gutters and downspouts, latest edition. Gutters shall be installed by using new hangers so that movement is not restricted.
E. Pitch: Pitch new gutters 1/16" per foot towards leader.
F. Leader/downspouts to be located to align with existing columns at ends and corners (3)
G. Cleaning: Upon completion of reinstallation/ adjustments, gutters shall be cleaned in accordance with the Aluminum Association publication Care of Aluminum, latest edition.
H. Leader Anchors: Secure leaders at all wall locations. Use lead shields and stainless steel screws at masonry, use aluminum screws at wood. For installation at locations with metal cladding or vinyl, allow for proper expansion and contraction of cladding material.

END OF SECTION

SECTION 07 50 10
MEMBRANE ROOFING

Part I General

1.01 General Requirements
A. Drawings and general provisions of the contract including General Conditions, Supplementary Conditions and all Division 1 specification sections, apply to this Section.

1.02 Scope of Work
A. The general scope of work consists of replacement of the built-up/membrane roofing system including but not limited to sheet roofing sheet goods, protection board, aluminum drip edge, and other sheet metal flashings, nails and other fasteners, and plastic cement and other items required for a complete watertight installation.
B. Specific Work includes, but is not limited to, the following:
   1. Roofing locations on building where membrane roofing is currently installed.
   2. Install membrane roof system over tapered insulation to provide positive drainage.

1.03 System description
A. Sheet Membrane Roofing System: Provide a waterproof roof system, capable of withstanding uplift forces as specified.
B. Membrane attachment will be fully adhered at all locations.
C. Base Flashing: Provide a waterproof, fully adhered base flashing system at all penetrations, plane transitions and terminations where work has affected the existing and remaining membrane assembly.

1.04 Submittals
A. Product information:
   1. Samples of each primary component to be used in the roof system and the manufacturer's current literature for each component.
   2. Sample copy of Manufacturer’s warranty.
   3. Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the Specification.
   4. Material Safety Data Sheets (MSDS).
B. See Section 01 33 00 – Submittals for Submittal Requirements.

1.05 Quality Assurance
A. Applicator: Company specializing in performing the work of this section with 5 years documented experience and approved by system manufacturer.
B. Perform Work in accordance manufacturer's instructions.
C. Maintain one (1) copy of manufacturer’s application instructions on site.
D. Inspection shall be made by a Technical Representative of the manufacturer to review the installed roof system and provide the specified material and installation warranty.

1.06 Regulatory Requirements
A. Conform to applicable local and State codes for roof assembly fire hazard requirements.

B. UL 790: Class A Fire Hazard Classification.
C. FM 4470: Roof Assembly Classification, of Class 1 Construction, wind uplift requirement of I-60, in accordance with FM Construction Bulletin 1-28.

1.07 Delivery, Storage and Protection
A. Deliver materials in manufacturer's unopened, labeled bundles, rolls or containers.
B. Store products in weather protected environment, clear of ground and moisture.
C. Store materials, except membrane, between 60 degrees F and 80 degrees F. If exposed to lower temperatures, restore to proper temperatures before using.

1.08 Environmental Requirements
A. Substrate: Proceed with work only after all substrate work has been completed.
B. Do not apply roofing membrane during inclement weather. Installation to occur within temperature range as required by manufacturer.
C. Do not apply roofing membrane to damp or frozen deck surface.
D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
E. Use compatible roof cement.
F. Do not allow waste products (petroleum, grease, oil, solvents, vegetable or mineral oil, animal fat) or direct steam venting to come in contact with single ply roofing system.
G. Splicing and bonding surfaces shall be dry and clean.
H. Roof surface shall be free of ponded water, ice or snow.

1.09 Warranty
A. Section 01 77 00 - Contract Closeout for closeout requirements pertaining to warranty information.
B. Contractor’s Warranty: This Contractor shall furnish a written warranty stating that all Work executed under this Section will be free from defects of material and workmanship for a period of one (1) year from the date of final acceptance by the Owner, except as stated above. This Contractor further states that he will, at his own expense, repair and replace all such defective materials or workmanship and all other Work damaged thereby which is so damaged during the one (1) year warranty period.
C. At project closeout, the Contractor shall provide an executed copy of the manufacturer's warranty or guarantee, outlining its terms, conditions, and exclusions from coverage.
D. Manufacturers’ Warranty: from the roofing manufacturer on the membrane and its installation (20 years on material; 15 years on labor). The roofing manufacturer will, at his own expense, repair and replace all defective materials and workmanship covered by their standard warranty for the specified warranty periods.

Part II Products

2.01 Membrane Material
A. Acceptable Manufacturers:
1. Carlisle Syntec Systems; EPDM membrane “Sure-seal” Adhered Roofing System; www.carlislesyntec.com.

2. Firestone Building Products; Rubberguard EPDM; http://firestonebpco.com/roofing/epdm-roofing-systems/
3. Johns Manville; EPDM membrane; http://www.jm.com/en/building-materials/commercial-roofing/epdm-roofing-systems/
4. See Section 01 25 00 for Substitution Requirements.

B. System Requirements: Provide complete system and all components from one manufacturer.

C. EPDM, reinforced, 60 mil thick, 10 foot wide roll; color: black; conforming to the following criteria:

1.	Tensile Strength:	ASTM D412	1305 psi, minimum
2.	Elongation:	ASTM D412	350
3.	Tear Strength	ASTM D624	175
4.	Water Absorption	ASTM D471	4% Change in Mass (max.)
5.	Moisture Vapor Perms	ASTM E96	2.0
6.	Exposure	ASTM D822	
7.	Low Temperature Brittleness	ASTM D746	-75

D. Seaming Materials: As recommended by the membrane manufacturer for the chosen system.

E. Washer Disc: Material membrane with adhesive backing.

F. Battens: Installed and specified based on the membrane manufacturer's recommendations for the system and conditions.

2.02 Adhesive Material

A. Surface Conditioner: As recommended by the membrane manufacturer.

B. Membrane Adhesives: Provide low-VOC adhesive as recommended by membrane manufacturer.

C. Insulation Adhesive: As recommended by insulation manufacturer.

D. Thinner and Cleaner: As recommended by adhesive manufacturer, compatible with sheet membrane.

2.03 Protection Board

A. Fiberglass gypsum board or fiber cement panel for exterior exposure; ¼ inch thick.

B. Manufacturers:

1. Georgia Pacific Gypsum; DensDeck Roof Board; www.gp.com.
2. James Hardie; Hardie backer; www.jameshardie.com.
3. USG; Securock Gypsum- Fiber Roof Board; www.usg.com.
4. See Section 01 25 00 for Substitution Requirements.

2.04 Flashings

A. Flexible flashings: Provided by the chosen membrane manufacturer.

B. Drip Edge: Minimum .024" aluminum sheet style-D drip edge, brake-formed to provide a minimum 1¼" inch flange with 3/8" drip at lower edge by minimum 6 1/2" roof deck flange. Furnish in 8' or 10' lengths. Do NOT install drip edge in pieces shorter than 24". Pre-Finished Aluminum Sheet: ASTM B209, 5005-H14 alloy shop pre-coated with modified silicone coating; NO MILL FINISH ALUMINUM ALLOWED.

2.05 Accessories

A. Roofing Nails: Galvanized hot dipped or non-ferrous type, size as required to suit application.

B. Fasteners for blocking and insulation shall be of the type suggested and required by the roof membrane manufacturer in order to fulfill all requirements to obtain all manufacturers' guarantees.
C. Sealants, pourable sealer: As recommended by membrane manufacturer.
D. Stack Boots: Flexible boot and collar for pipe stacks through membrane.
E. Seam Flashing, joint cover, pre-molded corners, roof edge flashings and assemblies as approved and/or provided by the manufacturer.

2.06 Insulation

A. Provide tapered polyiso roof board insulation, HCFC free, by Firestone, Carlisle, Atlas Roofing or equal. FM 1-90 wind uplift classification; compressive strength minimum 20 psi.

Part III Execution

3.01 Inspection

A. Examine substrate and conditions under which roofing work is to be performed and notify the Owner in writing of unsatisfactory conditions. Do not proceed with roofing work until unsatisfactory conditions have been corrected.
B. Preparation of Substrate
   1. Clean substrate of any projections and substances detrimental to roof work. Sweep substrate clean before application of protection board and membrane.
   2. Coordinate installation of membrane with flashing and other adjoining work to ensure proper sequencing. Do not install membrane until all vent stacks and other penetrations through roofing have been installed and flashed and are securely fastened against movement.

3.02 Protection Board Application

A. Mechanically attach protection board to structural roof deck.
B. Select, locate and space fasteners to meet performance and warranty requirements.
C. Ensure fasteners cannot lift or damage roof membrane.

3.03 Membrane Application and Splicing

A. The single-ply direct-adhered membrane roofing system shall be installed directly over the protection board. Installation shall be done by a Roofing Contractor approved by the membrane manufacturer.
B. All installation work shall be in strict accordance with the manufacturer's instructions, which will be available on site at all times while the roof work is underway.
C. All seams in the membrane are to be in strict accordance with the manufacturers recommendations.

3.04 Edge Strips

A. Deck membrane shall be installed over the perimeter edge strip to the outside fascia of the building in accord with manufacturer's instructions.
B. Edge strip shall be installed and secured according to an installation detail accepted by the membrane manufacturer. Securement provided by the Contractor shall prevent buckling.

C. Flashing of the edge strip deck flange must extend 3 inches minimum past the point of securement in all directions.
D. Flashing of the edge strip deck flange must provide complete coverage to the flange and provide a minimum 6-inch-wide splice to the adjoining deck membrane. Use the same splice cement for sealing flashing to the membrane and to the edge strip.

3.05 Penetrations
A. Flash all penetrations passing through the membrane.

3.06 Flashings and Accessories
A. Apply flexible flashings to seal membrane to vertical elements.
B. Secure to nailing strips at 4 inches (100 mm) oc.
C. Install prefabricated roofing expansion joints to isolate roof into areas in accordance with manufacturer's instructions.
D. Fabricate roofing and expansion joints to isolate roof into areas as indicated.
E. Coordinate installation of roof drains and related flashings.
F. Seal flashings and flanges of items penetrating membrane.

3.07 Field Quality Control
A. Correct identified defects or irregularities.
B. Provide site attendance of roofing and insulation materials manufacturer’s representative during installation of the Work if required for warranty processing or if issues arise in the field.

3.08 Cleaning
A. In areas where finished surfaces are soiled by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
B. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.09 Protection of Finished Work
A. Protect remaining and adjacent building surfaces against damage from roofing work.
B. Where traffic must continue over finished roof membrane, protect surfaces.

END OF SECTION

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

Part I – **General**

1.01 **General Requirements**
A. The general provisions of the Contract, including General Conditions and Division 1 Specification Sections apply to this Section.

1.02 **Scope of Work**
A. Fabricated sheet metal items, including flashings and trim.

1.03 **Related Sections**
A. Section 07 30 00 - Asphalt Shingles
B. Section 07 50 10 – Membrane Roofing

1.04 **Reference Standards**
A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; American Architectural Manufacturers Association; 1998.
B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.
C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2005.
D. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2007.
E. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007.
F. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2003.

1.05 **Submittals**
A. See Section 01 33 00 - Submittals, for submittal procedures.
B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.06 **Quality Assurance**
A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

Part II – **Products**

2.01 **Sheet Materials**
A. Pre-Finished Aluminum: ASTM B 209 (ASTM B 209M); 0.032 inch (0.8 mm) thick; plain finish shop pre coated with fluoropolymer coating.
   1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; color as selected by the Architect from manufacturer's standard colors.

2.02 **Accessories**

A. Fasteners: Galvanized steel, with soft neoprene washers.
B. Primer: Zinc chromate type.
C. Plastic Cement: ASTM D 4586, Type I.

2.03 **Fabrication**

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
B. Form pieces in longest possible lengths.
C. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.
D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
E. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; seam for rigidity, seal with sealant.
F. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

Part III – **Execution**

3.01 **Examination**

A. Verify support materials are firmly in place and ready for flashings.
B. Prepare flashings for installation.

3.02 **Installation**

A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted by architect.
B. Apply plastic cement compound between metal flashings and felt flashings.
C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
D. Seal metal joints watertight.
E. Coordinate flashing with other project work to allow for complete weather tight installation at project edges and where new systems and new and existing systems overlap.

END OF SECTION