PART 1 GENERAL

1.01 SECTION INCLUDES

A. Asphalt shingle roofing.

B. Flexible sheet membranes for eave protection, underlayment, and valley protection.

C. Soffit and ridge vents

D. Associated metal flashings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Roof sheathing.

B. Section 07 6200 - Sheet Metal Flashing and Trim: Edge and cap flashings.

1.03 REFERENCE STANDARDS

A. ASTM D3161/D3161M - Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method); 2016a.

B. ASTM D3462/D3462M - Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules; 2016.

C. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings; 2011.

D. NRCA (RM) - The NRCA Roofing Manual; 2018.

E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

F. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating material characteristics.

C. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern; for color selection.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.

1.05 QUALITY ASSURANCE

A. Products are Required to Comply with Fire Resistance Criteria: UL (DIR) listed and labeled.

1.06 FIELD CONDITIONS

A. Do not install shingles or eave protection membrane when surface temperatures are below 45 degrees F.

1.07 EXTRA MATERIALS

A. See Section 01 6000 - Product Requirements, for additional provisions.

B. Furnish One unbroken bundle of Asphalt Shingles that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Asphalt Shingles:
   1. Owens Corning Corp; ____: www.owenscorning.com/#sle.

2.02 ASPHALT SHINGLES

A. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462.
   1. Fire Resistance: Class A, complying with ASTM E108.
   2. Wind Resistance: Class A, when tested in accordance with ASTM D3161.

3. Weight: ____ lb/100 sq ft.
4. Self-sealing type.
5. Style: Square.
6. Color: As selected by Architect.

2.03 UNDERLAYMENT MATERIALS

A. Self-Adhering Sheet Underlayment, Polyethylene Faced: ASTM D 1970, minimum of 40-milthick, slip-resisting, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release paper backing; cold applied.

1. Available Products:

a. Carlisle Coatings & Waterproofing, Div. of Carlisle Companies Inc.

b. Grace, W. R. & Co.; Grace Ice and Water Shield.

c. Henry Company; Perma-Seal PE.

d. Johns Manville International, Inc.; Roof Defender.

e. Owens Corning; WeatherLock M.

2.04 VENTS

A. Ridge Vent: Manufacturers standard UV stabilized, externally baffled ridge vent

1. WIDTH: 11 ¼" MIN.

2. NET FREE AREA: 12 ½" / LIN. FT.

A. Soffit Vent: Continuious PVC vent

1. WIDTH: 2" MIN.

2. LENGTH: 96" MIN.

3. NET FREE AREA: 9 SQ. IN. PER FT.

2.05 ACCESSORIES

A. Staples: Standard wire shingle type, of hot dipped zinc coated steel, 16 wire gage, 0.0508 inch diameter, 15/16 inch crown width, of sufficient length to penetrate through roof sheathing or 3/4 inch into roof sheathing or decking.

2.06 METAL FLASHINGS

A. Metal Flashings: Provide sheet metal dormer flashing, siffit vents, and other flashing indicated.
   1. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
   2. Hem exposed edges of flashings minimum 1/4 inch on underside.

B. Steel Sheet Metal: Prefinished and galvanized steel sheet, 26 gage, 0.0179 inch minimum thickness, G90/Z275 hot-dipped galvanized; PVC coated, _____ color.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions prior to beginning work.

B. Verify that roof deck is of sufficient thickness to accept fasteners.

C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.

D. Verify roof openings are correctly framed.

E. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

A. Seal roof deck joints wider than 1/16 inch as recommended by shingle manufacturer.

B. At areas where eave protection membrane is to be adhered to substrate, fill knot holes and surface cracks with latex filler.

C. Broom clean deck surfaces before installing underlayment or eave protection.

D. Install eave edge flashings tight with fascia boards, weather lap joints 2 inches and seal with plastic cement, and secure flange with nails spaced ____ inches on center.

3.03 INSTALLATION - EAVE PROTECTION MEMBRANE

A. Install eave protection membrane from eave edge to minimum 4 ft up-slope beyond interior face of exterior wall.

B. Install eave protection membrane in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

3.04 INSTALLATION - UNDERLAYMENT

A. At Roof Slopes Less Than 4:12 : Install Self-Adhering Sheet Underlayment over entire roof area, with ends and edges weather lapped minimum 4 inches. Stagger end laps of each consecutive layer.

B. At Roof Slopes Greater Than 4:12 : Install Self-Adhering Sheet Underlayment perpendicular to slope of roof, with ends and edges weather lapped minimum 4 inches. Stagger end laps of each consecutive layer. Weather lap minimum 4 inches over eave protection.

C. Weather lap and seal watertight with plastic cement any items projecting through or mounted on roof.

3.05 INSTALLATION - VALLEY PROTECTION

A. Install valley protection in accordance with SMACNA Architectural Sheet Metal Manual.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

A. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.

B. Secure in place with nails at ____ inches on center, and conceal fastenings.

C. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement.

3.07 INSTALLATION - SHINGLES

A. Install shingles in accordance with manufacturer's instructions manufacturer's instructions and NRCA (RM) applicable requirements.
   1. Fasten individual shingles using 2 nails per shingle, or as required by code or manufacturer, whichever is greater.
   2. Fasten strip shingles using 4 nails per strip, or as required by code or manufacturer, whichever is greater.

B. Place shingles in straight coursing pattern with 5 inch weather exposure to produce double thickness over full roof area, and provide double course of shingles at eaves.

C. Project first course of shingles 3/4 inch beyond fascia boards.

D. Extend shingles 1/2 inch beyond face of gable edge fascia boards.

E. Extend shingles on both slopes across valley in a weave pattern and fasten, extend shingles a minimum of 12 inches beyond valley center line to achieve woven valley, and concealing valley protection.

F. Coordinate installation of roof mounted components or work projecting through roof with weather tight placement of counterflashings.

G. Complete installation to provide weather tight service.

3.08 PROTECTION

A. Do not permit traffic over finished roof surface.

END OF SECTION