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For more information, contact TRA Snow and Sun, 1657 South 580 East, American Fork, UT 84003; Phone: 801-756-8666; Fax: 801-756-7891; Website: www.trasnowandsun.com; Email: info@trasnowandsun.com.

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SECTION 077253 - SNOW GUARDS

TIPS:

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To read **detailed research, technical information about products and materials, and coordination checklists**, click on MasterWorks/Supporting Information.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
1. Snow guard brackets.
 2. Standing seam clamp-on snow fence.
 3. Deck-mounted snow fence.

1.3 ACTION SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for snow guard brackets, standing seam clamp-on snow fences, and deck-mounted snow fences.
 - 1. Engineering Calculations: For snow bracket system anchoring and roof system[**stamped and sealed by an Engineer licensed in the project's jurisdiction**].
- B. Sustainable Design Submittals:
 - 1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
- C. Shop Drawings: Include roof plans showing layouts and attachment details of snow guard brackets, standing seam clamp-on snow fences, and deck-mounted snow fences.
 - 1. Include details of snow guard brackets, standing seam clamp-on snow fences, and deck-mounted snow fences.
 - 2. Include calculation of number and location of snow guard brackets, standing seam clamp-on snow fences, and deck-mounted snow fences based on ground snow load, roof slope, roof type, components, spacings, and sheathing type.
- D. Samples: [Full-size unit] [Base, bracket, and **12-inch- (300-mm-)** long fence].

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each type of snow guard bracket, standing seam clamp-on snow fences, and deck-mounted snow fences for tests performed by manufacturer and reviewed by a qualified testing agency.

1.5 WARRANTY

- A. Special Warranty on Snow Guard Brackets, Standing Seam Clamp-On Snow Fences, and Deck-Mounted Snow Fences: Manufacturer's standard form in which manufacturer agrees to replace and ship snow guard components that fail to meet engineered design loads within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Performance Requirements: Provide snow guard brackets, standing seam clamp-on snow fences, and deck-mounted snow fences that withstand exposure to weather and resist thermally induced movement without failure, rattling, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

1. Temperature Change: **120 deg F (67 deg C)**, ambient; **180 deg F (100 deg C)**, material surfaces.

B. Structural Performance:

1. Snow Loads: As indicated on Drawings.

2.2 SNOW GUARD BRACKETS

A. Snow Guard Brackets:

1. Roof Type: Asphalt Shingles.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Snow Bracket D**] [**Snow Bracket E Short**] [**Snow Bracket E Short with Disc**] [**Snow Bracket H**] [**Universal Guard Snow Bracket**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) **<Insert manufacturer's name>**.

2. Roof Type: Cedar Shingles.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Snow Bracket F**] [**Snow Bracket FX Extended**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) **<Insert manufacturer's name>**.

3. Roof Type: Clay Tile.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Snow Bracket Ludowici High Profile**] [**Snow Bracket Ludowici Interlocking**] [**Snow Bracket Ludowici Mid Profile**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) **<Insert manufacturer's name>**.

4. Roof Type: Concrete Tile.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Snow Bracket A**] [**Snow Bracket A – CB (Counter Batten)**] [**Snow Bracket B**] [**Snow Bracket B – CB (Counter Batten)**] [**Snow Bracket Madera**] [**Snow Bracket Legendary**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - 2) Berger Building Products, Inc.
 - 3) <Insert manufacturer's name>.
5. Roof Type: Corrugated Metal.
- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; Snow Bracket I or a comparable product by one of the following:
 - 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - 2) Berger Building Products, Inc.
 - 3) <Insert manufacturer's name>.
6. Roof Type: Flat Seam Metal.
- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [Snow Bracket D] [Snow Bracket G 11.5] [Snow Bracket G 9.5] [Snow Bracket G 8.5] [Snow Bracket H] or a comparable product by one of the following:
 - 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - 2) Berger Building Products, Inc.
 - 3) <Insert manufacturer's name>.
7. Roof Type: Granule Metal.
- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [Snow Bracket H] [Snow Bracket J] or a comparable product by one of the following:
 - 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - 2) Berger Building Products, Inc.
 - 3) <Insert manufacturer's name>.
8. Roof Type: Metal Panel.
- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [Snow Bracket H] [Snow Bracket L] [Universal Guard Snow Bracket] or a comparable product by one of the following:
 - 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - 2) Berger Building Products, Inc.
 - 3) <Insert manufacturer's name>.
9. Roof Type: Simulated Slate and Shake.
- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [Snow Bracket E] [Snow Bracket E Short] [Snow Bracket E Short with Disc] [Snow Bracket H] [Universal Guard Snow Bracket] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) <Insert manufacturer's name>.

10. Roof Type: Single Ply.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; Single Ply Decorative Snow Bracket or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) <Insert manufacturer's name>.

11. Roof Type: Slate.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Snow Bracket F**] [**Snow Bracket FX Extended**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) <Insert manufacturer's name>.

12. Roof Type: Standing Seam Metal.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Clamp-on Mushroom Snow Bracket**] [**Snow Bracket H**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) <Insert manufacturer's name>.

13. Roof Type: Wood Shake.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; [**Snow Bracket F**] [**Snow Bracket FX Extended**] or a comparable product by one of the following:

- 1) Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
- 2) Berger Building Products, Inc.
- 3) <Insert manufacturer's name>.

14. Material: [**Zinc Plated Steel**] [**Stainless Steel**] [**Copper**] [**Corten steel**] [**Aluminum**].

15. **Recycled Content of Metal Products**: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **[25]** <Insert value> percent.

16. Finish: [**Mill finished stainless steel**] [**Mill finished copper**] [**Corten steel**] [**Electro-galvanized steel**] [**Hot-dipped galvanized steel**] [**Powder coat colors**] [**Mill finish aluminum**].

- a. Color: Powder coat; **[RAL color as selected by Architect from manufacturer's full range]** <Insert Color>.

B. Standing Seam Clamp-On Bracket:

1. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; **[Clamp-On Bear]** **[Clamp-On Leaf]** **[Clamp-On Moose]** **[Clamp-On Mushroom]** **[Clamp-On Tree]** or a comparable product by one of the following:
 - a. Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - b. Berger Building Products, Inc.
 - c. <Insert manufacturer's name>.
2. Material: **[Zinc Plated Steel]** **[Stainless Steel]** **[Copper]** **[Corten steel]** **[Aluminum]**.
3. **Recycled Content of Metal Products**: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **[25]** <Insert value> percent.
4. Finish: **[Mill finish stainless steel]** **[Mill finish copper]** **[Corten steel]** **[Electro-galvanized steel]** **[Hot-dipped galvanized steel]** **[Powder coat colors]** **[Mill finish aluminum]**.
 - a. Color: Powder coat; **[color as selected by Architect from manufacturer's full range]** <Insert Color>.

C. Seam-Mounted Snow Guards:

1. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; **[Snow Bracket E Short]** **[Snow Bracket H]** **[Snow Bracket L]** **[Universal Guard Snow Bracket]** or a comparable product by one of the following:
 - a. Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - b. Berger Building Products, Inc.
 - c. <Insert manufacturer's name>.
2. Material: **[Zinc Plated Steel]** **[Stainless Steel]** **[Copper]** **[Corten steel]** **[Aluminum]**.
3. **Recycled Content of Metal Products**: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **[25]** <Insert value> percent.
4. Finish: **[Mill finish stainless steel]** **[Mill finish copper]** **[Corten steel]** **[Electro-galvanized steel]** **[Hot-dipped galvanized steel]** **[Powder coat colors]** **[Mill finish aluminum]**.
 - a. Color: Powder coat; **[color as selected by Architect from manufacturer's full range]** <Insert Color>.

2.3 FENCE-TYPE SNOW GUARDS

A. Flat-Mounted, Fence-Type Snow Guards (Deck Mount Fence):

1. Basis-of-Design Product: Subject to compliance with requirements, provide Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; **[C1 Single Ply]** **[C2 Single Ply]** **[D-1H Deck Mount]** **[D-1H Extended]**

Deck Mount] [D-2H Deck Mount] [D-2H Extended Deck Mount] [D-3H Deck Mount] [D-3H Extended Deck Mount] [D-4H Deck Mount] [D-4H Extended Deck Mount] [D-Log Deck Mount] [D-Timber Deck Mount] [D-1 Diamond Mount] [D-1 Mount Shasta] [D-2 Diamond Mount] [D-2 Mount Shasta] or a comparable product by one of the following:

- a. Berger Building Products, Inc.
 - b. Sieger Snow Guards Inc.
 - c. **<Insert manufacturer's name>**.
2. Description: Units fabricated from metal with **[one] [two] [three] [four]** rail options.
 3. Material: **[Zinc plated steel] [Stainless steel] [Copper] [Corten steel] [Aluminum]**.
 4. Bar Material: **[Stainless steel; mill finished] [Galvanized steel] [Aluminum; mill finished] [Aluminum; clear anodized] <Insert material>**.
 5. **Recycled Content of Metal Products**: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **[25] <Insert value>** percent.
 6. Finish: **[Mill finish stainless steel] [Mill finish copper] [Corten steel] [Electro-galvanized steel] [Hot-dipped galvanized steel] [Powder coat colors] [Mill finish aluminum]**.
 - a. Color: Powder coat; **[RAL color as selected by Architect from manufacturer's full range] <Insert Color>**.

B. Seam-Mounted, Rail-Type Snow Guards:

1. Basis-of-Design Product: Subject to compliance with requirements, provide TRA SNOW AND SUN, INC.; **[C21Z Clamp On Snow Guard] [C22Z Clamp-On Snow Guard] [C23Z Clamp-On Snow Guard] [C31Z Clamp-On Snow Guard] [C32Z Clamp-On Snow Guard] [C41Z Clamp-On Snow Guard] [C42Z Clamp-On Snow Guard] [Snow Diamond 1 Rail Clamp-On] [Snow diamond 2 Rail Clamp-On]** or a comparable product by one of the following:
 - a. Alpine SnowGuards, a division of Vermont Slate & Copper Services, Inc.
 - b. LMCurbs.
 - c. **<Insert manufacturer's name>**.
2. Description: Units fabricated from metal with **[one] [two] [three] [four]** rail options.
5. **Recycled Content of Metal Products**: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **[25] <Insert value>** percent.
 - a. Color: Powder coat; **[RAL color as selected by Architect from manufacturer's full range] <Insert Color>**.

2.4 FASTENERS

- A. Copper Roof: Use stainless steel or brass for fasteners and anchors recommended by manufacturer.
- B. Aluminum Roof: Use stainless steel for fasteners and anchors recommended by manufacturer.

- C. Clay Tile Roof: Use copper or stainless steel for nails and anchors recommended by manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances of snow guard brackets, standing seam clamp-on snow fence, and deck-mounted snow fence attachment, and other conditions affecting performance of the Work.
 - 1. Verify compatibility with and suitability of substrates including compatibility with existing finishes or primers.
 - 2. Verify that roofing materials, framing, decking, and fastenings are capable of resisting design forces in accordance with authorities having jurisdiction.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean and prepare substrates for securing snow guard brackets, standing seam clamp-on snow fence, and deck-mounted snow fence; remove loose and foreign matter that could interfere with installation or performance.
- B. Prime substrates according to snow guard manufacturer's written instructions.

3.3 INSTALLATION

- A. Install snow guard brackets, standing seam clamp-on snow fence, and deck-mounted snow fence according to manufacturer's written instructions. [**Space brackets horizontally and rows as recommended by manufacturer.**]
 - 1. Bracket fasteners to penetrate a minimum **3/4 inch (19 mm)** into the sheathing substrate or go all the way through.
 - 2. Deck mounted fence fasteners to penetrate a minimum **3 inches (76 mm)** into the rafters.
- B. Attachment for Asphalt Shingle Roofing:
 - 1. Flat-Mounted, Snow Guard Brackets: [**Mechanically anchored through holes concealed by the shingles**] [**Retrofit mechanical anchor and counterflashing sleeve system**] <Insert attachment>.
 - 2. Flat-Mounted, Rail-Type Snow Guards: [**Mounting plates bolted or screwed to the rafter in place of a shingle**] <Insert requirement>.
- C. Attachment for Wood Shingle and Shake Roofing:
 - 1. Flat-Mounted, Snow Guard Brackets: [**Mechanically anchored through sheathing concealed by the flashing**] [**Retrofit mechanical anchor and counterflashing sleeve**

- system] **[Hook and mechanically anchored through predrilled holes concealed by shingles and shakes]** **<Insert attachment>**.
2. Flat-Mounted, Fence-Type Snow Guards: **[Mounting plates screwed to the roof rafter in place of a shingle]** **<Insert requirement>**.
- D. Attachment for Slate Shingle Roofing:
1. Flat-Mounted, Snow Guard Brackets: **[Mechanically anchored through predrilled holes concealed by the shingles]** **[Retrofit strap and hook system]** **[Retrofit mechanical anchor and counterflashing sleeve system]** **[Hook and mechanically anchored through predrilled holes concealed by shingles and shakes]** **<Insert attachment>**.
 2. Flat-Mounted, Rail-Type Snow Guards: **[Mounting plates bolted or screwed to the roof in place of a shingle]** **<Insert requirement>**.
- E. Attachment for Metal Shingle Roofing:
1. Flat-Mounted, Snow Guard Brackets: **[Mechanical anchor and counterflashing sleeve system]** **<Insert attachment>**.
- F. Attachment for Tile Roofing:
1. Flat-Mounted, Snow Guard Brackets: **[Hook and mechanically anchored through concealed by roof tiles]** **<Insert attachment>**.
 2. Flat-Mounted, Rail-Type Snow Guards: **[Mounting plates bolted or screwed to the roof rafter]** **<Insert requirement>**.
- G. Attachment for Copper Roofing:
1. Copper Clamp-On, Copper Fence; 1, 2, & 3 rail system.
 2. Flat-Mounted, Snow Guards: **[Soldered]** **<Insert attachment>**.
- H. Attachment for Standing-Seam Metal Roofing:
1. Do not use fasteners that will penetrate metal roofing, or fastening methods that void metal roofing finish warranty.
 2. Seam-Mounted Metal Snow Guard Brackets: **[Zinc-plated-steel clamps attached to vertical ribs of standing-seam metal roof panels]** **[Copper clamps attached to vertical ribs of standing-seam metal roof panels]** **[Corten steel clamps attached to vertical ribs of standing-seam metal roof panels]** **[Stainless-steel clamps attached to vertical ribs of standing-seam metal roof panels]** **[Aluminum clamps attached to vertical ribs of standing-seam metal roof panels]** **<Insert attachment>**.
 3. Seam-Mounted, Rail-Type Snow Guards: **[Zinc-plated-steel clamps attached to vertical ribs of standing-seam metal roof panels]** **[Copper clamps attached to vertical ribs of standing-seam metal roof panels]** **[Corten steel clamps attached to vertical ribs of standing-seam metal roof panels]** **[Stainless-steel clamps attached to vertical ribs of standing-seam metal roof panels]** **[Aluminum clamps attached to vertical ribs of standing-seam metal roof panels]** **<Insert attachment>**.
- I. Attachment for **<Insert roofing type>** Roofing:

1. <Insert requirements>.

END OF SECTION 077253