

ADDENDUM NO.2  
TO GENERAL, MECHANICAL AND ELECTRICAL  
REDFIELD AMBULANCE GARAGE  
CITY OF REDFIELD  
REDFIELD, SOUTH DAKOTA

Addendum Dated: February 11, 2023

Original Plans and Specifications Dated: January 25, 2023

NOTE: The Plans, details and accompanying specifications shall be amended as follows, but where any article is amended the original article shall remain in effect and shall become a part of the original plans and specifications.

A. PLAN CHANGES AND CLARIFICATIONS:

1. Sheet A2:

- a) Roof Framing Plan. Provide blocking between roof trusses at bearing end walls.
- b) Add attached General Structural Notes (1 page).

2. Sheet A3:

- a) Floor Plan: Wall between Office 103 and Mechanical 104 should be W1 - 6 <sup>3</sup>/<sub>4</sub>".
- b) W4 Interior Wall is not used.

3. Sheet A4:

- a) 1/A4, 2/A4, 3/A4, 5/A4 and 9/A4: Delete #30 Building Felt. M-Loc roof panels should be installed over Sharkskin Ultra SA self-adhered synthetic roof underlayment. See attached Section 7307 (6 pages).
- b) 1/A4, 2/A4, 3/A4: At the eave provide solid blocking with ventilation as shown on attached Drawing 1 Addendum 2 (1 page).

B. SPECIFICATION CHANGES AND CLARIFICATIONS:

1. Section 07 40 00 – Metal Wall and Roof Panels:

- a. 2.4B.2: Roof Panels to be Central States Manufacturing M-Loc or equal. Rated 1:12 pitch, 26 gauge, 36" coverage, 13/16" max rib height.

# GENERAL STRUCTURAL NOTES

1. Design Codes Used:  
IBC 2018  
ACI Concrete Code  
AISC Code-ASD
2. Design Loads:  
Roof Snow Load:  $P_s = 50 + \text{PSF} + \text{Drift (Balanced)}$   
Unbalanced snow load as per ASCE 7-16 Section 7  
 $P_g = 50 \text{ PSF}$   
 $P_f = 50 \text{ PSF}$   
 $C_e = 1.0$   
 $I_s = 1.2$   
 $C_t = 1.2$   
Wind Load:  $V_{ULT} = 120 \text{ MPH}$  Basic Wind Speed  
Risk Category = IV  
Wind Exposure B  
Internal Pressure Coefficient  $\pm 0.18$
3. Design Stresses Used:  
Concrete  
- Slabs on Grade 3000 PSI @ 28 days  
Steel Footings and Foundation Walls 3000 PSI @ 28 days  
- Angles, Channels, Bars  $F_y = 36 \text{ KSI (ASTM A36)}$   
Reinforcing Steel 60 KSI (ASTM A615-60)  
Soil Bearing Pressure 1500 PSF (Assumed, Verify w/ Geotechnical Engineer's review of Excavation)
4. CONCRETE COVERAGE for reinforcing shall be as follows:  
Footings 3 inches  
Columns and Piers 1 1/2 inches  
Slabs on Grade midheight for a single layer  
Walls 1 1/2 inches @ exterior  
3/4 inch @ interior  
Structural Slabs 3/4 inch unless noted  
PROVIDE BAR SUPPORTS AND SPACERS in accordance with the ACI Detailing Manual.
5. REINFORCING STEEL to be bent and placed in accordance with ACI code. All splices to be 38 db for #6 bar or smaller.
6. FOOTINGS to rest on undisturbed soil or engineered backfill. It is recommended that the Soils Engineer inspect soil conditions prior to construction. All walls and piers to center on footing unless otherwise noted. All footing elevations are given to the top of footings.
7. OPENINGS in concrete FOUNDATION WALLS shall be reinforced with 2-#5 bars each side, extending 2'-0" past the face of the opening unless otherwise noted.
8. PORTLAND CEMENT to be ASTM C150, Type I & IA.
9. CONCRETE to be in accordance with ACI 301. Maximum shale content shall not exceed 0.5% for exposed concrete.
10. CONTROL AND CONSTRUCTION JOINTS to be located as shown on the plan or at contractors option - not to exceed 12'-6" o.c.
11. ROOF TRUSSES to be engineered by the fabricator under the supervision of a professional engineer. Shop drawings to be stamped by the professional engineer. All trusses to have roof sheathing, including areas with scabbed in wood framing above.
12. ROOF TRUSSES shall be secured to wall plates with H2.5T Anchors by Simpson or equal at every truss.
13. General Contractor shall provide all lateral roof bracing as required by truss plate institute manual "HIB-91" or as required by the truss design.
14. CARPENTRY  
Beams/Wood Studs Hem Fir, SPF #2, or better  
L.V.L.'s (Laminated Veneer Lumber)  $F_b = 2600 \text{ psi}$
15. Refer to IBC table or MN Building Code for typical nailing not shown. Table 2304.10.1.
16. CONTRACTOR VERIFY all dimensions with Architectural Plan.

# SECTION 7307 CONCRETE/ CLAY TILE, METAL, SLATE AND ASPHALT COMPOSITION SELF-ADHERED/ PEEL & STICK ROOF UNDERLAYMENT

## Part 1 – General

### 1.01 Summary

#### A. Section Includes:

1. Self-adhered peel & stick roof and wall underlayment.
2. Provide and install underlayment in compliance with manufacturer's specified installation requirements.

#### B. Related Sections

1. Section: 6100: Rough Carpentry; Roof Sheathing and nailers
2. Section: 7620: Sheet Metal Flashings and Trim
3. Section: 7320: Concrete/Clay Roof Tile
4. Section: 7610: Architectural Metal Roofing
5. Section: 7311: Asphalt Shingles
6. Section: 7317: Real and Synthetic Slate

#### C. References

1. ICC/ES ESR 1708 - AC48 Roof Underlayment for Use in Severe Climate Areas
2. ICC/ES AC 152 Adhesive Attachment of Concrete or Clay Roofing Tiles per ASTM 1623
3. Miami/Dade NOA No.16-0517.14
4. Florida Building Code (FBC) FL8097-R-5 Code Version 2017
5. 2006 International Building Code (IBC)
6. 2006 International Residential Code (IRC)
7. Texas Department of Insurance approved
8. Air Barrier Association of America - ABAA D-115-010 (2013), Section 5.5
9. National Roofing Contractors Association
10. Western States Roofing Contractors Association

### 1.02 Performance Requirements

- A. Provide and install a self-adhered roof and or wall underlayment and flashing system that does not permit the passage of water and will withstand 12-month UV resistance to sun light.
- B. Provide and install a self-adhered roof underlayment that provides nail seal-ability per ICC-ES AC 152 from an independent ICC-ES accredited lab.
- C. Provide and install a self-adhered synthetic butyl rubber wall underlayment that provides nail seal-ability per ABAA D-115-010 (2013) Section 5.5 ASTM D1970-11.per third party independent testing.

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- D. Provide and install a self-adhered roof underlayment that has passed the testing requirements set forth in ICC-ES AC48 per independent testing.
- E. Provide and install a self-adhered roof underlayment that has passed the testing requirements per Miami-Dade TAS 103 for High Velocity Hurricane Zone with 6-month UV exposure resistance per ASTM D4798 Cycle A-1 for 1000 hrs., per independent testing from a Miami-Dade accredited lab.
- F. Provide and install a self-adhered roof underlayment that has passed the testing requirements set forth per FBC Code Version 2017 per independent testing.
- G. Provide and install a self-adhered roof and wall underlayment that is a vapor barrier.
- H. Provide and install a self-adhered roof and wall underlayment that contains no VOC's.
- I. Provide and install a self-adhered roof underlayment that can be installed at 10 degrees F (-12.22 degrees C) and rising temperatures.
- K. Provide and install a self-adhered roof underlayment that has service temperatures between -50 degrees F and 280 degrees F (-45.55 – 137.77 degrees C).
- J. Provide and install a self-adhered roof underlayment that is slip-resistant to work over even in wet conditions.
- K. Provide and install a self-adhered roof underlayment with no selvage edge.
- L. Provide and install a self-adhered roof underlayment that provides for multi-directional installation.
- M. Provide and install a self-adhered roof underlayment that does not require roof mastic at the vertical end laps, hip and ridge details and adheres to itself.
- N. Provide a self-adhered roof underlayment that does not required primer when installed over plywood, OSB, metal, metal fluted decking, Polyiso, DensDeck®, SecuerRock®, CMU block and clean, smooth, broom swept concrete.

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- O. Provide a self-adhered roof underlayment that carries a 50-year limited warranty.
- P. Provide a self-adhered roof underlayment that has passed testing requirements per ICC/ES AC 152 Adhesive Attachment of Concrete or Clay Roofing Tiles per ASTM 1623 per independent testing.
- Q. Provide a roof underlayment that carries a 50-year limited warranty.

1.03 Submittals – must comply with Division 1

- A. Product Data: Provide product data sheets for each type of product indicated in this section, including certified product test results from an accredited independent third-party lab.
- B. Shop Drawings: Provide manufacturers standard installation details, certified product test results as applicable to materials, installation instructions and approved shop drawings for the roof system specified.
- C. Provide samples of roof underlayment and associated fasteners for verification of quality.
- D. Sample Warranty

1.04 Quality Assurance

- A. Manufacturer Qualifications: Manufacturer to have current ICC/ES, FBC and Miami/Dade listed reports, and provide data from independent testing per Slip Resistance; Test Method National Standard of Canada CAN GSB-75.1-M88 or equivalent ASTM test per an approved independent testing company.

**Average Coefficient of Friction**

Rubber – dry: 0.63  
Rubber – wet: 0.51

Leather – dry: 0.48  
Leather – wet: 0.50

- B. Mold or Fungi  
The formation or presence of mold or fungi in a building is dependent upon a number of factors including, but not limited to, the presence of spores and nutrient sources, moisture, temperatures, climatic conditions, relative humidity, and heating/ventilating systems and their

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maintenance and operating capabilities. These factors are beyond the control of Kirsch Building Products LLC (Kirsch) and Kirsch shall not be responsible for any claims, repairs, restoration, or damages relating to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in any building or in the air, land, or water serving the building.

### **1.05 Delivery, Storage and Handling**

- A. Packing, Shipping, Handling and Unloading: Deliver materials with identification labels intact. Schedule deliveries to avoid construction delays but minimize jobsite storage.
- B. Storage and protection: Store materials protected from exposure to harmful weather conditions and direct sunlight. As recommended by manufacturer, store materials at a temperature between 40 degrees F and 100 degrees (4.4 – 38 degrees C). If exposed to lower temperatures restore materials to 40 degree F (-6.66 degree C) minimum temperature before application.

### **1.06 Warranty**

- A. Upon original pre-installation of final roof system, specified underlayment will not materially deteriorate from exposure to sunlight for 12 months.
- B. Upon installation of final roof system, specified underlayment will not allow water to penetrate the roofing substrate due to decomposition beneath the primary roof and wall covering. And provide a 50 year limited warranty per Kirsch Building Products – Sharkskin Ultra SA® Limited Warranty.

## **Part 2 – Products**

### **2.01 Materials**

- A. Acceptable Product: Sharkskin Ultra SA® as manufactured by: Kirsch Building Products LLC, 1464 Madera Road, Suite 387, Simi Valley, CA 93065  
Tel: 877-742-7507 Fax: 805-526-1116  
[www.sharkskinroof.com](http://www.sharkskinroof.com)

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**B. Substitutions:**

- a. Substitutions must fully comply with specified requirements
- b. Refer to section 01630 - Product options and substitutions for substitution request procedures.

**C. Physical Properties of Roof Underlayment membrane:**

High tensile strength polypropylene woven core fabric, coated on both sides with UV resistant polypropylene coating containing anti-oxidant additive, with slip-resistant polypropylene non-woven fiber surface embedded in top coating layer. With a high strength synthetic butyl co-polymer adhesive layer on bottom side containing no VOC's, and polypropylene dual coated split release liner for safer installation.

**2.02 Materials**

- A. Polypropylene based polymer blend
- B. Adhesive to be synthetic butyl co-polymer with no VOC content

**Part 3 Execution**

**3.01 Examination**

- A. Verify that a roof slope of 2:12 or greater exists for proper water shedding.
- B. Determine, with the presence of the installer, that conditions are satisfactory. (i.e. remove sharp objects and debris on roof deck, etc.)
- C. Conflicts resulting from inspection should be resolved prior to underlayment installation.

**3.02 Installation**

Underlayment shall be installed per printed installation instructions from the manufacturer on every roll or local building code. Overlaps run with the flow of water in a shingle-like manner slip-resistant printed side up. Contact Kirsch Building Products for vertical (strapping method) installation requirements.

- A. Install over clean, dry continuous structural deck such as Polyiso, concrete, gypsum, DensDeck®, SecureRock®, metal, plywood, or OSB board, at temperature 10 degrees and rising. High temp rated to 280 degrees. Note install test sample to roof deck surface prior to installation to determine proper adhesion prior to installing and prior to walking on installed underlayment as a safety precaution.
- B. No primer required.

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- C. Cut the self-adhered roof underlayment into lengths that are manageable for the installer(s).
- D. Start at eave of roof or low point and work toward high point of the roof. Position underlayment and peel away split release liner at top of underlayment.
- E. Press the underlayment into place by hand.
- F. Flop underlayment up and pull release liner from bottom side of underlayment and press into place by hand.
- G. Install with minimum 2"-4" head lap and 6"-12" side lap depending on roof pitch. Install subsequent courses in a shingling application per standard roofing practice.
- H. Once installed use hand roller at all seams to maintain continuous seal. The field of the sheet can be broomed down to provide full contact with the substrate.
- I. For adhesive set tile systems use Dow®, AH Polyset, or Stormbond One or Two component polyurethane adhesive per manufactures specification for clay or concrete tile and nail using 1" metal round cap nails every 12" on center along the top horizontal edge 2" below top edge of underlayment. Subsequent courses shall overlap nails by 2".

**3.03 Cleaning and Protection**

- A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace any damaged installed underlayment. Clean installed products in accordance with manufacturer's instructions prior to owner's Acceptance, which is to remove all loose debris and leave deck in clean broom swept manner. Remove construction debris from project site and legally dispose of debris.
- B. Protection: Protect installed product's finished surfaces from damaged during construction.