

SECTION 905 -- PROPOSAL (CONTINUED)

I (We) hereby certify by digital signature and electronic submission via Bid Express of the Section 905 proposal below, that all certifications, disclosures and affidavits incorporated herein are deemed to be duly executed in the aggregate, fully enforceable and binding upon delivery of the bid proposal. I (We) further acknowledge that this certification shall not extend to the bid bond or alternate security which must be separately executed for the benefit of the Commission. This signature does not cure deficiencies in any required certifications, disclosures and/or affidavits. I (We) also acknowledge the right of the Commission to require full and final execution on any certification, disclosure or affidavit contained in the proposal at the Commission's election upon award. Failure to so execute at the Commission's request within the time allowed in the Standard Specifications for execution of all contract documents will result in forfeiture of the bid bond or alternate security.

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda):

ADDENDUM NO.	<u>1</u>	DATED	<u>4/15/2024</u>	ADDENDUM NO.	_____	DATED	_____
ADDENDUM NO.	<u>2</u>	DATED	<u>4/17/2024</u>	ADDENDUM NO.	_____	DATED	_____
ADDENDUM NO.	<u>3</u>	DATED	<u>4/18/2024</u>	ADDENDUM NO.	_____	DATED	_____

Number	Description
1	Revised or Added Plan Sheet Nos. 2 & 3; Amendment EBSx Download Required.
2	Replace Document 00 22 13 with same; Amendment EBSx Download Required.
3	Revised Section 13 34 19 Metal Building Systems; Amendment EBSx Download Required.

TOTAL ADDENDA: 3
(Must agree with total addenda issued prior to opening of bids)

Respectfully Submitted,

DATE _____

Contractor

BY _____
Signature

TITLE _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE _____

FAX _____

E-MAIL _____

(To be filled in if a corporation)

Our corporation is chartered under the Laws of the State of _____ and the names, titles and business addresses of the executives are as follows:

_____	President	Address
_____	Secretary	Address
_____	Treasurer	Address

The following is my (our) itemized proposal.

BWO-3067-63(004)/ 503758301000, BWO-3125-63(002)/ 503758302000, BWO-3160-63(002)/ 503758303000 & BWO-3045-63(002)/ 503758304000
Sharkey County(ies)

Revised 01/26/2016

SECTION 13 34 19 METAL BUILDING SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Building Types: Existing
2. Exterior Walls: Existing
3. Roof systems: Remove existing roof deck, insulation, gutters and downspouts and reroof using metal roof panels with thermal insulation blankets (Shop and Enclosed Bay), factory-applied sealant, gutters, downspouts, and fasteners.
4. Components and Accessories: Manufacturer's standard building components and accessories may be used, provided components, and accessories, conform to design indicated and specified requirements.

B. Related sections: Colors are specified in Section 09 05 15 - Color Design.

1.02 ROOF PANELS

A. Metal Roofing: Comply with SMACNA Architectural Sheet Metal Manual.

1.03 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's sample warranty and product information for standing seam metal roof components, accessories and color chart.

B. Shop Drawings: Submit Shop Drawings for roofing and components and accessories not fully detailed or dimensioned in manufacturer's product data.

1. Roof Panels and Sheet Metal Accessories: 1/4-inch-scale layouts and 1-1/2-inch-scale details of accessories; show profiles, methods of joining to system components and dissimilar building materials, flashing of each condition for roof penetrations, and anchorage.

C. Certification prepared, signed, and sealed by a Professional Engineer registered in the State of Mississippi, verifying that standing seam metal roof panels meet loading requirements and codes (IBC 2012), including design calculations.

D. Submit sample copies of the Paint Finish Guarantee and Weather Tightness Warranty prior to fabrication and installation for MDOT Architect's approval. DO NOT start roofing installation without MDOT Architect's approval of Guarantee and Warranty. Refer to Division 00 Sections for State of Mississippi requirements.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance data.

- B. Executed copies of Paint Finish Guarantee and Weather Tightness Warranty.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide buildings manufactured by a firm with 10 years experience in manufacturing standing seam metal roof panels similar to those indicated.
 - 1. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
- B. Installer Qualifications: An experienced installer, with five (5) years minimum experience, who specializes in installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.
- C. Pre-installation Conference: Conduct conference at Project site.

1.06 WARRANTY

- A. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: Twenty (20) years from Date of Completion.
- B. Special Weather-tightness Warranty for Standing-Seam Metal Roof Panels:
 - 1. The entire installation (clips, panels, fasteners, rakes, eaves, ridge/valley flashing conditions, roof to wall conditions as well as all materials specified as supplied by the manufacturer) shall be guaranteed weather tight for a minimum of twenty (20) YEARS.
 - 2. This warranty shall be identified as neither Non-Depreciating, Non-prorated nor have exclusions that identify valleys, curbs, and flashings.
 - 3. Provide written warranty, signed by the manufacturer and his authorized installer / dealer, agreeing to replace / repair defective materials and workmanship with NO COST (NDL) to the Owner during the warranty period.
 - 4. Warranty period begins at the Date of Completion as determined by MDOT

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Drawings and Specifications are based on products manufactured by Ceco Building Division, P. O. Box 6500, Columbus, MS 39703. Tel. (662) 328-6722.
- B. Comparable product by one of the following manufacturers are acceptable:
 - 1. ACI Building Systems, Inc., Batesville, MS Tel. 662-563-4574.
 - 2. Kirby Building Systems, Portland, TN. Tel. (615) 325-4165
 - 3. MBCI, Hernando, MS, Tel: (800) 206-6224
 - 4. Metallic Building Company, Houston, TX Tel (866) 800-6353.
 - 5. Varco Pruden Buildings, Memphis, TN. Tel. (901) 748-8000.

- C. Substitution requests WILL NOT be considered PRIOR to Contract Award. Substitutions that fully meet or exceed the specified requirements may be considered under provisions of Section 01 25 00- Substitution Procedures and Section 01 60 00- Product Requirements.

2.02 METAL ROOF SYSTEM PERFORMANCE

- A. Delegated Design: Design metal roof system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Metal roof systems shall be designed according to procedures in MBMA's "Metal Building Systems Manual."
 - 1. Design Loads: As required by MBMA's "Metal Building Systems Manual" and ASCE/SEI 7.
 - 2. Metal panel assemblies shall withstand the effects of gravity loads and loads and stresses within limits and under conditions indicated according to ASTM E 1592.
- C. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F material surfaces.
- D. Air Infiltration for Metal Roof Panels: Air leakage through assembly of not more than 0.06 cfm/sq. ft. of roof area when tested according to ASTM E 1680 at negative test-pressure difference of 1.57 lbf/sq. ft.
- E. Water Penetration for Metal Panels: No water penetration when tested according to ASTM E 1646 at test-pressure difference of 2.86 lbf/sq. ft.
- F. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for Class 90.
- G. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980 based on testing identical products by a qualified testing agency.
- H. Energy Performance: Provide roof panels that are listed on the DOE's ENERGY STAR Roof Products Qualified Product List for low-slope roof products.

2.03 METAL ROOF AND WALL PANELS

- A. Large Tapered-Rib Profile, Exposed Fastener Metal Roof and Wall Panels: Equal to PBR Metal Roofing and Wall Panel, 1 ¼ inches high with 36 inches wide coverage, 24 gauge, Roof shall have Galvalume finish. Walls and trim shall have a Kynar 500 (70 percent PVDF) color coating finish. Standard colors from the manufacturer's full range of colors to be selected by Project Engineer / MDOT Architect.

2.04 THERMAL INSULATION (Building "A" and Building "B" Enclosed Bay)

- A. Glass-fiber blanket: Comply with ASTM C 167, 0.8 lb. per cubic foot density, R 19 (roof) and R 13 (walls- Building "B" Enclosed Bay), with UL flame spread classification of 25 or less, and 2-inch wide continuous vapor tight edge tabs.
- B. Vapor Barrier: Facing shall be equal to Lamtec Corporation model WMP-50. Facing shall be composed of 0.0015 inch white polypropylene film, 5 by 5 tri-directional scrim reinforcing layer, and 0.0005 inch metallized polyester film backing layer. The facing shall have a water vapor transmission rate of 0.02 US perm (ASTM E96, Procedure A), a beach puncture of 125 scale units and a mullen burst of 120 psi. Tensile strength shall be 65 lbs/inch width in the machine direction and 60 lbs/inch width in the cross-machine direction.
- C. Underlayment for Wood roof decking. Provide Self-adhering, cold-applied, sheet underlayment, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer. Equal to Grace Ice and Water Shield HT.

2.05 ACCESSORIES

- A. General: Provide accessories as standard with standing seam metal roof system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.
 - 1. Form exposed sheet metal accessories that are without excessive oil-canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fascia, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.
- C. Flashing and Trim: Formed from 24 gage nominal-thickness, zinc-coated steel sheet (galvanized G-90) or aluminum-zinc alloy-coated steel sheet prepainted with coil coating (Kynar 500 with 70 percent PVDF); finished to match adjacent metal panels, unless indicated otherwise.
- D. Gutters: Formed from 24 gage nominal-thickness, zinc-coated (galvanized G-90) steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating (Kynar 500 with 70 percent PVDF) ; finished to match roof fascia and rake trim. Box-shaped profile, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 20'-0" long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."
 - 1. Gutter Supports: Fabricated from same material and finish as gutters
 - a. Provide supports spaced at maximum of 4'-0" on center.
 - 2. Strainers: Aluminum wire ball type at outlets.
- E. Downspouts: Formed from 24 gage nominal-thickness (**smooth, not corrugated**), zinc-coated (galvanized G90) steel sheet or aluminum-zinc alloy-coated steel sheet pre-

painted with coil coating (Kynar 500 with 70 percent PVDF). Fabricate in full-length long sections (rectangular-shaped), complete with formed elbows and offsets.

1. Mounting Straps: Fabricated from same material and finish as gutters.
 - a. Straps shall be spaced 5'-0" on center maximum (minimum of 3 required per downspout).
 - b. Strap edges shall be rolled or smooth.

- F. Pipe Flashing: Pre-molded, EPDM pipe collar with flexible aluminum ring bonded to base.

2.06 FABRICATION

- A. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

PART 3 - EXECUTION

3.01 METAL ROOF PANEL INSTALLATION, GENERAL

- A. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
1. Field cut metal panels as required for openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
 - a. Field cutting of metal panels by torch is not permitted.
 2. Install metal panels perpendicular to structural supports unless otherwise indicated.
 3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
 4. Locate and space fastenings in uniform horizontal alignment.
 5. Locate metal panel splices over, but not attached to, structural supports with end laps in alignment.
 6. Lap metal flashing over metal panels to allow moisture to run over and off the material.
- B. Lap-Seam Metal Panels: Install screw fasteners using power tools with controlled torque adjusted to compress EPDM washers tightly without damage to washers, screw threads, or metal panels. Install screws in predrilled holes.
1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated items for neat and weather-tight enclosure. Avoid "panel creep" or application not true to line.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants recommended by metal roof panel manufacturer.
1. Seal metal panel end laps with double beads of tape or sealant the full width of panel. Seal side joints where recommended by metal roof panel manufacturer.
 2. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."

3.02 METAL ROOF PANEL INSTALLATION

- A. General: Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.
1. Install ridge and hip caps as metal roof panel work proceeds.
 2. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.
- B. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

3.03 THERMAL INSULATION INSTALLATION

- A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire surface, according to manufacturer's written instructions.
1. Set vapor-retarder-faced units with vapor retarder toward warm side of construction unless otherwise indicated. Do not obstruct ventilation spaces except for fire-stopping.
 2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to the surrounding construction to ensure airtight installation.
 3. Install factory-laminated, vapor-retarder-faced blankets straight and true in one-piece lengths, with both sets of facing tabs sealed, to provide a complete vapor retarder.
- B. Blanket Roof Insulation: Comply with the following installation method:
1. Over-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Install layer of filler insulation over first layer to fill space formed by metal roof panel standoffs. Hold in place by panels fastened to standoffs.
 - a. Thermal Spacer Blocks: Where metal roof panels attach directly to purlins, install thermal spacer blocks.
 2. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.

3.04 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to existing building framing and weather-tight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal roof panel assembly, including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 2. Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual."
1. Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
 2. Install exposed flashing and trim that is without excessive oil-canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
 3. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
 4. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
 - a. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection.
 - b. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- C. Gutters: Join sections with riveted-and-soldered or lapped-and-sealed joints. Attach gutters to eave with gutter hangers spaced as required for gutter size, but not more than 36 inches on center using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- D. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches on center in between.
1. Provide elbows at base of downspouts to direct water away from building.
- E. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to panel as recommended by manufacturer.

END OF SECTION