

Addendum No. 2

AIRLINE HIGH IMPROVEMENTS – PHASE I

2801 Airline Drive

Bossier City, Louisiana 71111

BPSB Project No. CM1211-A

Bid Number ITB 2014-CM1211-A

SMBB Project No. 1303.02

April 30, 2014

This Addendum No. 2 forms a part of the Contract Documents and modifies the original Bid Documents dated April 9, 2014, as noted below. Acknowledge receipt of this Addendum in space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

GENERAL NOTES

1. Attached is the official Mandatory Pre-Bid Conference – Sign-In Sheet dated April 28, 2014, 2:00PM.
2. This Addendum incorporates answers to specific questions from the Pre-Bid Conference of April 28, 2014, that were not already a part of the Contract Documents.
3. As a point of clarification, the earliest possible start date for construction in all areas, excluding the Indoor Dining and Auditorium, is May 19, 2014, pending the issuance of the Notice-to-Proceed.
4. Architectural Prior Approvals
 - a. The following architectural products and manufacturers are prior approved to quote for this project per the individual specification sections to which they apply. Prior approval of manufacturers and products does not relieve the Contractor of the responsibility to provide all design requirements and function of individually applicable specification sections and where indicated on plans. All submittals are subject to review per specified submittal procedures and are subject to acceptance, re-submittal and rejection by the Architect.

<u>Specification</u>	<u>Equipment</u>	<u>Manufacturer</u>
087100 – Door Hardware	Closers D4550	Stanley Security Solutions, Inc.
087100 – Door Hardware	Exit Devices 2000 Series	Stanley Security Solutions, Inc.
087100 – Door Hardware	Stanley Cylindrical Locks 9K	Stanley Security Solutions, Inc.
096723 – Resinous Flooring	Florock – FloroQuartz BC	Florock
5. Mechanical/Electrical/Plumbing Prior Approvals

Add one-page ADDENDUM 2 from Purtle + Associates, L.C. for all Mechanical/Electrical/Plumbing prior approvals attached at the end of this Addendum No. 2.

6. Auditorium Abatement Scaffolding

- a. Prior to the construction process in the Auditorium, scaffolding will be installed for abatement purposes by the Abatement Contractor and will cover the entire Auditorium seating area. It will be the Construction Contractor's option to contact the Scaffolding Sub-Contractor if the Contractor wants to extend the contract with the Scaffolding Sub-Contractor for their construction processes. The name of the Scaffolding Sub-Contractor is **Mondello Scaffolding & Shoring, Inc., Voice - 318.752.5600.**

SPECIFICATIONS

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

7. SECTION 074113.16 – STANDING-SEAM METAL ROOF PANELS

- a. Delete this Section entirely and add SECTION 074113.16 – STANDING-SEAM METAL ROOF PANELS found at the end of this Addendum No. 2.
- b. PARAGRAPH 2.2 STANDING-SEAM METAL ROOF PANELS
Subparagraph B. Trapezoidal-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: As a point of clarification, the new SECTION 074113.16 -- STANDING-SEAM METAL ROOF PANELS requires a folded-seam installation in lieu of a snap-seam joint, as originally specified.
- c. PARAGRAPH 3.3 METAL PANEL INSTALLATION
Subparagraph E. Standing-Seam Metal Roof Panel Installation: As a point of clarification, the new SECTION 074113.16 -- STANDING-SEAM METAL ROOF PANELS requires a folded-seam installation in lieu of a snap-seam joint, as originally specified.

DRAWINGS

Architectural

8. Sheet A1.02

- a. Detail 2 – Panel at brick edge
 1. Delete note stating “3/4” Finish grade plywood, stained and sealed” and add the following note: “3/4” Select white maple, grade 1, plain sliced, book batch between veneer leaves, stained and sealed as specified.”
- b. Detail 3 – New Panel Detail Above Brick Ledge
 1. Delete note stating “3/4” Finish grade plywood, stained and sealed” and add the following note: “3/4” Select white maple, grade 1, plain sliced, book batch between veneer leaves, stained and sealed as specified.”

9. Sheet A1.03

- a. Detail 4 – Panel at Balcony
 1. Delete “3/4” Finish grade plywood and add note “3/4” select white maple, grade 1, plain sliced, book match between veneer leaves, stained and sealed as specified.”

10. Sheet A1.04

a. Wall Section 3 – Window Infill at Auditorium

1. Delete “3/4” Finish grade plywood” and add note “3/4” select white maple, grade 1, plain sliced, book match between veneer leaves, stained and sealed as specified.”

11. Sheet A1.05

a. Detail 1 – Auditorium 2:

1. Delete note “Paint existing grill to match wall” and add note, “Return air grilles at front of Auditorium to remain. Grilles are to be cleaned and painted to match new wall color as selected by Architect”.

b. Detail 3 – Auditorium Seat Custom End Panel

1. Add Detail 3 – Auditorium Seat Custom End Panel to Sheet A1.05. See Sheet AD2-1 attached to the end of this Addendum No. 2. As a point of clarification, these custom end panels will be installed on five (5) end seats as described in Addendum No. 1 – Drawings, Item #1.

12. Sheet A1.06

a. Detail 1 – Building D:

1. At New Cooler/Freezer, add the following Note:
Contractor to relocate south storage unit to the open area adjacent to metal building located just south of new cooler/freezer units. Second storage unit (north) is to be removed, but not salvaged, for the Owner. Remove slab under north storage building to allow for installation of new slab per Structural Drawings. Remove two (2) 4’ wide x 20’ long, 4” thick existing sidewalks leading to Storage Units.

13. Sheet A1.08

a. Detail 5 – Indoor Dining Plan (Alternate No. 3):

1. Delete note “Alternate No. 3: Abate 9”x 9” asbestos Tile and glue down to existing concrete slab in shaded area as shown. Replace with “new resinous epoxy floor and integral base”, and add note “Alternate No. 3: Install new resinous epoxy floor and integral base in shaded area as shown”.

14. Sheet A1.21

a. Detail 9 – Women G-133:

1. Delete note “New access panel door to existing remote cooler”, and add note “New 2’-0” x 4’-0” non-fire rated access panel door to existing remote cooler, Re: Specification Section 083113, paragraph 2.2.C”.

MECHANICAL

15. Add one-page ADDENDUM 2 from Purtle + Associates, L.C. for all Mechanical Items, attached at the end of this Addendum.



MANDATORY PRE-BID CONFERENCE - SIGN-IN SHEET

PROJECT: Airline High Improvements – Phase I
 2801 Airline Drive
 Bossier City, LA. 71111
 BPSB #CM1211-A
 SMBB Project No. 1303.02

PLEASE PRINT LEGIBLY

DATE: April 28, 2014, 2:00PM

Name	Representing	Telephone	Facsimile	Email
Kenn Babin	SMBB Architects	318.221.1623	381.221.1626	kbabin@smbbarchitects.com
Rachel James	SMBB Architects	318.221.1623	381.221.1626	rjames@smbbarchitects.com
Greg Smotherman	SMBB Architects	318.221.1623	381.221.1626	gsmotherman@smbbarchitects.com
Donna Nicci	Trash Construction Services	318 227-8526	318 227-8528	estimating@trashes.com
Aaron Edwards	Mech Sys + Serv	318-453-6237	318-322-6803	a.edwards@mechsyst.net
Kathy Walters	MSS	318 680-0253		
Gardy Norman	Stephenson Floors	318-517-9046		gadynorman05@comcast.net
William Davis	Stephenson Floors	718-510-2525		wdavis07@a.yarbo.com
Larry Digg's	MAMA Sanitorial Svc	318 286 8350	318 670 3025	edwardson
MARK WALKER	WIREBILITY, INC.	318 861-4474	868 6164	Mutalbon@integritygs.com
STEVE LARICK	CARTER CONSTR CO	227-3653	227-3656	stevec@lafayette.com
Alton Jefferson	Bryan Contracting Group	318-212-1490		alton@bryancontractinggroup.com
JOHN R. SMITH	FITZGERALD CONT. LLC	318-868-5487		JSMITH@FITZGERALDCONTRACTORS.COM
George Taylor	Shamrock Sheet Metal	318 635 5740		gtaylor@shamrocksm.com
Dan Topole	Boysie's Pole Contracting	318-747-3322	318-747-6246	dan@boysiespole.com
Kandy Klum	BPSB	318-317-5012		
Keith Norman	BPSB - Planning	549-7215	549-7213	keith.norman@bommerschmidt.com
Don Chamber	SB/Kates	601-238-9948		dplankett@wigfates.com

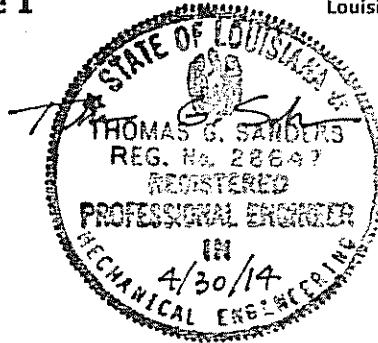
ADDENDUM 2

Bossier Parish School Board Airline High School – Phase I



Purtle + Associates Job #13184

April 30, 2014



GENERAL:

The following is a list of products, materials, and/or manufacturers prior approved to bid the respective equipment or materials. Note that approval of a material or manufacturer does not constitute approval of a specific product. Products must meet or exceed plans and specifications in every aspect and are subject to shop drawing review. No other substitutions will be accepted.

Equipment

Lavatory Systems
Lavatory Faucets

Manufacturer

Willoughby
Speakman Commercial

MECHANICAL:

Plans:

Sheet M1.01:

1. At Stage A102 delete the key note M8 references to ceiling diffusers. These diffusers have been removed and replaced with sidewall diffusers. Key note M11 shall apply to all existing sidewall air devices in this area. Field verify existing conditions.

Sheet M1.02:

1. Key note M7 – Change 20 gauge to 14 gauge. Provide intermediate support angles 24" on center as required.

END OF ADDENDUM

SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS – Addendum #2

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 standing-seam metal roof panels.
- B. Related Sections:
 - 1. Section 074213.53 "Metal Soffit Panels" for metal panels used in horizontal soffit applications.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
 - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
 - 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches (1:10).
- C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
 - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
 - 1. Metal Panels: 12 inches (305 mm) long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Sample Warranties: For special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.
- C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Build mockups for typical roof area only, including accessories.
 - a. Size: 12 feet (3.5 m) long by 6 feet (1.75 m).

- b. Each type of exposed seam and seam termination.
- 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
- 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

1.8 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.9 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.
- B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on 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. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
- C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:
 - 1. Wind Loads: As indicated on Drawings.

2. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- B. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 or ASTM E 331 at the following test-pressure difference:
 1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).
- C. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
 1. Uplift Rating: UL 90.
- D. FM Global Listing: Provide metal roof panels and component materials that comply with requirements in FM Global 4471 as part of a panel roofing system and that are listed in FM Global's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
 1. Fire/Windstorm Classification: Class 1A-90.
 2. Hail Resistance: SH.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 STANDING-SEAM METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
 1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.
- B. Trapezoidal-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with raised trapezoidal ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. MBCI; a division of NCI Building Systems, L.P.; Double Lok.
 - b. McElroy Metal, Inc.; Masterlok-FS
 - c. NUCOR: CFR Vice-Lock 360.
 2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 (Class AZM150) coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - a. Nominal Thickness: 0.028 inch (0.71 mm).
 - b. Exterior Finish: Two-coat fluoropolymer at covered canopy at Cooler/Freezer. Galvalume at Outdoor Dining Area
 - c. Color: As indicated by manufacturer's designations Match Architect's samples As selected by Architect from manufacturer's full range at Canopy for Cooler/Freezer.
 3. Clips: Two-piece floating to accommodate thermal movement.
 - a. Material: 0.028-inch- (0.71-mm-) nominal thickness, zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet.
 4. Joint Type: Double folded.
 5. Panel Coverage: 24 inches (610 mm)
 6. Panel Height: 3.0 inches (76 mm).

2.3 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C 645; cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A 792/A 792M, Class AZ50 (Class AZM150) coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 - 1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
 - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 - 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2400-mm-) long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches (914 mm) o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match roof fascia and rake trim.
- E. Downspouts: Formed from same material as roof panels. Fabricate in 10-foot- (3-m-) long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Finish downspouts to match gutters.
- F. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
 - 2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.

2.4 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 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.
 - 2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 4. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
 - 5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.

6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

2.5 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
 1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
 2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.3 METAL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal panels.
 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal panel work proceeds.
 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.

7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
1. Steel Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
 2. Aluminum Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
 3. Copper Panels: Use copper, stainless-steel, or hardware-bronze fasteners.
 4. Stainless-Steel Panels: Use stainless-steel fasteners.
- C. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.
- D. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- E. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.
1. Install clips to supports with self-tapping fasteners.
 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
 3. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
 4. Watertight Installation:
 - a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
 - b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
 - c. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates.
- F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.
- G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." 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.
1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof and weather-resistant performance.
 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped 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 (25 mm) deep, filled with mastic sealant (concealed within joints).
- H. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 36 inches (914 mm) o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- I. Downspouts: Join sections with telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1524 mm) o.c. in between.
1. Provide elbows at base of downspouts to direct water away from building.
 2. Connect downspouts to underground drainage system indicated.

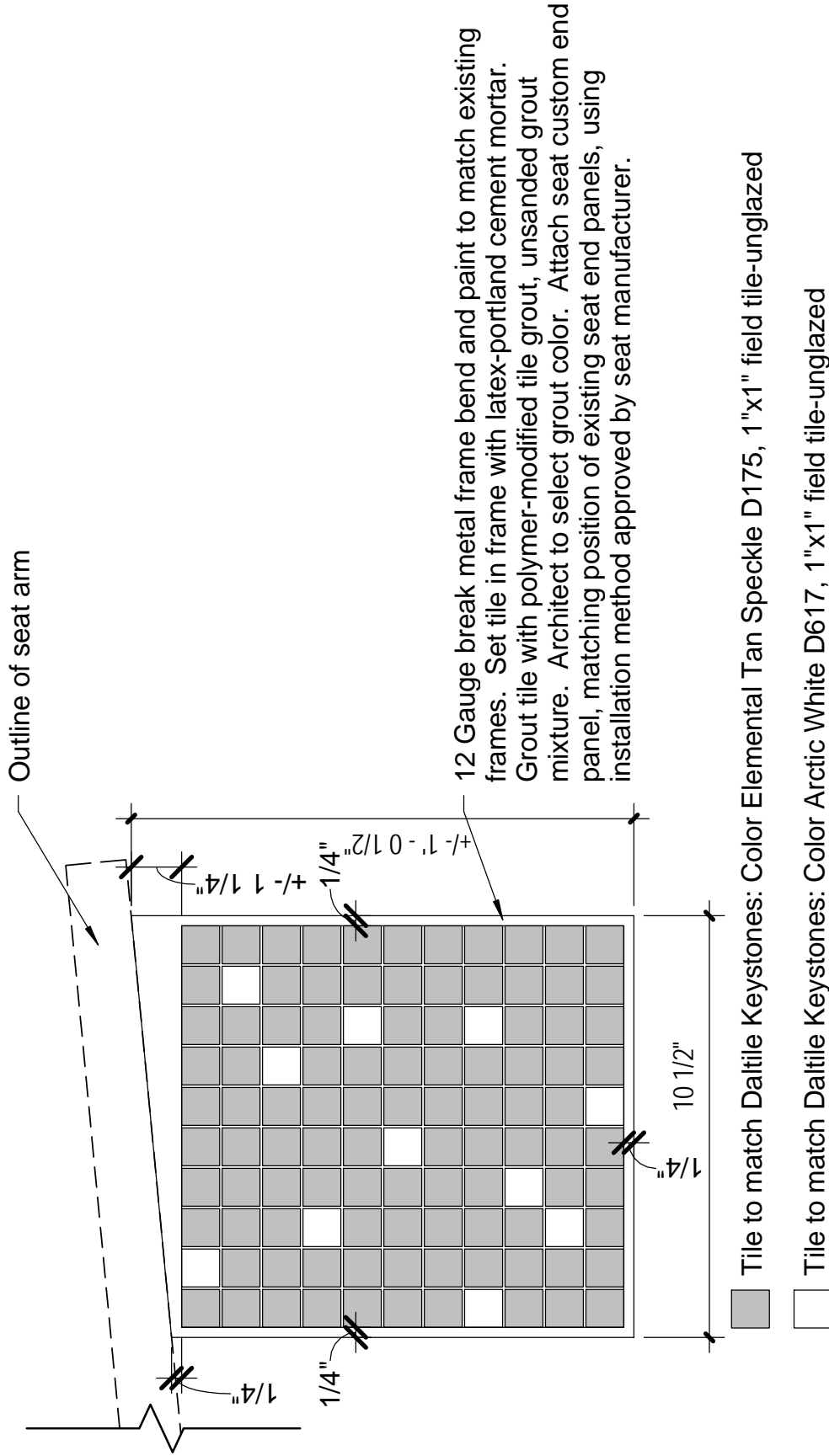
3.4 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align metal panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.5 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074113.16



Auditorium Seat Custom End Panel

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