



ADDENDUM NO. 2

DATE: 11/13/2024

TO: ALL BIDDERS
FROM: JKF ARCHITECTURE
RE: Edgecombe Community College
Barnes Student Lounge Renovation
SCO ID NO. 23-27150-01A
JKF Project No. 2024-04

The following corrections, clarifications, or supplemental information is to be incorporated into the Contractor(s) bid to perform the Work:

CHANGES TO DRAWINGS:

1. None.

CLARIFICATIONS:

1. Existing ceilings shown as demolition are part of an existing 1-Hour Fire-rated Roof/Ceiling Assembly. The new ceiling installed both in the existing building and in the addition shall be installed consistent with UL Design No. P225 (Copy Attached, 5 Pages). This will include ceiling tile as modified in "Changes to Specifications", hold-down clips unless tile has sufficient weight to eliminate them, fixture protection on all 2x2 fixtures as noted in UL Design P225, and fabricated gypsum board boxes set over recessed can lights or equivalent manufactured product. The existing steel beams to remain have existing spray-on fire protection that is to remain. Existing joists are not sprayed and are within the assembly.
2. No Hazardous Materials are anticipated in the work area.
3. In lieu of a stand-alone field office, the existing space being renovated may be used as a field office. Progress meetings will be scheduled for an available classroom.
4. See attached Addendum dated 11-13-2024 from Atlantec Engineering-IMEG (2 Pages).

CHANGES TO SPECIFICATIONS

1. Add Specification Section 083326, Overhead Coiling Grilles; dated 10-15-2024 (8 Pages).
2. Specification Section 095113; dated 10-15-2024; Change Paragraph 2.3.A basis of Design Number from "556" to "578".
3. Delete Specification Section 220800 in its entirety. There is no commissioning required for this project.
4. Delete Specification Section 230800 in its entirety. There is no commissioning required for this project.
5. Delete Specification Section 260800 in its entirety. There is no commissioning required for this project.

Edgecombe Community College
Barnes Student Lounge Renovation
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END OF ADDENDUM NO. 2 (TOTAL NUMBER OF PAGES = 17)

Attachments:

1. As noted.

xc:

- All Bidders, Plan Rooms
- Andrew Votipka,
- Raymond Pachnar
- JKF Design Team
- Vibha Goel, RA, SCO

file: a:\projects-2024\2024-04\111-002.docx

November 13, 2024

RE: **Edgecombe Community College
Barnes Student Lounge Renovation
SCO ID NO. 23-27150-01A
JKF Project No. 2024-04
Addendum #2**

The following corrections, clarifications, or supplemental information is to be incorporated into the Contractor(s) bid to perform the Work:

Mechanical:

1. The contractor shall integrate the new make-up air unit into the existing Trane BAS system. The integration shall allow remote control of fan and temperature control and monitoring of discharge temperature, unit mode, fan status, space temperature and humidity.
2. All new ceiling supply and return grilles shall be protected with radiation dampers and ceiling blankets.
3. The kitchen hood exhaust duct shall be wrapped in 1-hour rated insulation from hood to roof penetration.
4. Specification section 230800 – Mechanical Commissioning Requirements is not required. Contractor shall provide test of fire suppression system and capture of kitchen hood. Test and Balance reports will be reviewed and control of new make-up unit.

Electrical:

1. Type D1 fixture: information to be revised as follows:
 - a. Description: 6" LED CAN LIGHT, IC RATED, RECESSED MOUNTED, 1500 LUMEN
 - b. Catalog:
 - i. LITON: CH6CIC15-UE-D10-**-B60-T40
 - ii. ACUITY GROUP: EQUAL
 - iii. CURRENT GROUP: EQUAL
 - c. Electrical Data: 1500 LUMEN, 4000K LED, 0-10V ELECTRONIC DIMMING DRIVER, 15W-17VA, 120/277V
 - d. Notes: ** REFELCTOR FINISH PER ARCHITECT INSTRUCTION.
2. Type D1/EM fixture: information to be revised as follows:
 - a. Description: 6" LED CAN LIGHT, IC RATED, RECESSED MOUNTED, 1500 LUMEN, WITH EMERGENCY BATTERY BACKUP

October 21, 2024

- b. Catalog:
 - i. LITON: CH6CIC15-UE-D10-EM-**-B60-T40
 - ii. ACUITY GROUP: EQUAL
 - iii. CURRENT GROUP: EQUAL
 - c. Electrical Data: 1500 LUMEN, 4000K LED, 0-10V ELECTRONIC DIMMING DRIVER, 15W-17VA, 120/277V
 - d. Notes: ** REFELCTOR FINISH PER ARCHITECT INSTRUCTION.
3. Type D2 fixture: information to be revised as follows:
- a. Description: 6" LED CAN LIGHT, IC RATED, RECESSED MOUNTED, 2100 LUMEN
 - b. Catalog:
 - i. LITON: CH6CIC20-UE-D10-**-B60-T40
 - ii. ACUITY GROUP: EQUAL
 - iii. CURRENT GROUP: EQUAL
 - c. Electrical Data: 2100 LUMEN, 4000K LED, 0-10V ELECTRONIC DIMMING DRIVER, 20W-22VA, 120/277V
 - d. Notes: ** REFELCTOR FINISH PER ARCHITECT INSTRUCTION.
4. Lighting fixture equal product manufacturer: Hubbell Lighting Group is changed to Current Lighting Group.
5. Specification section 260800 – Electrical Commissioning Requirements is not required.

Plumbing:

- 1. Specification section 220800 – Plumbing Commissioning Requirements is not required.

No Attachments

End of Addendum



UL Design No. P225

May 1, 2024

Restrained Assembly Ratings — 1 and 1-1/2 Hr.

(See Items 2, 2D, 11, 12, 15 and 16)

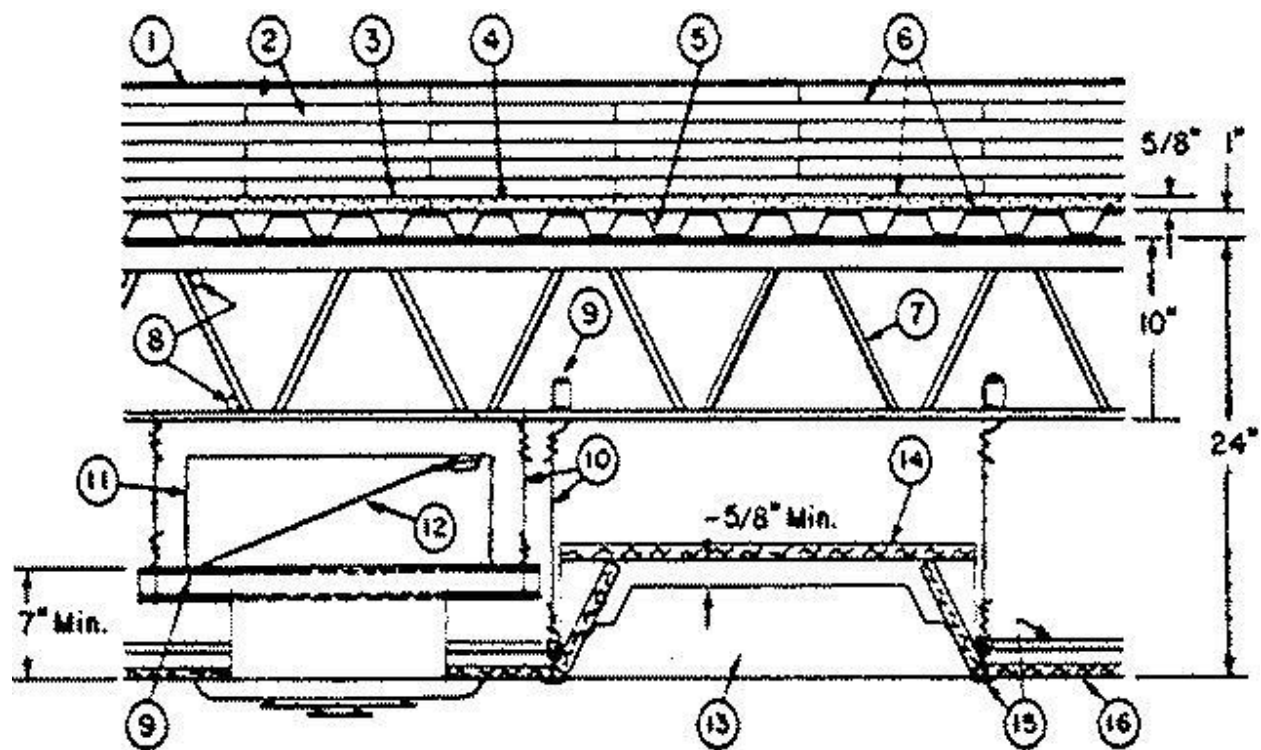
Unrestrained Assembly Ratings — 1 and 1-1/2 Hr.

(See Items 2, 2D, 11, 12, 15 and 16)

Unrestrained Beam Ratings — 1 and 1-1/2 Hr.

(See Items 2, 2D, 11, 12, 15 and 16)

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



Beam — (Not Shown) — W6x12, min size. As alternate to steel beam, joist girders - (Not Shown)- 20 in. min depth and 13 lb/lin ft. min weight.

See **Roofing Materials and Systems Directory-Roof Covering Materials (TEVT)**.

1A. **In lieu of Item 1, roof covering consisting of single-ply Roofing Membrane*** — That is either ballasted, adhered or mechanically attached as permitted under the respective manufacturer's Classification.

See **Fire Resistance Directory - Roofing Membranes (CHCI)**.

1B. **Metal Roof Deck Panels** — (Not Shown) — In addition to or in lieu of Item 1, the roof covering may consist of a mechanically fastened metal roof deck panel assembly.

See **Fire Resistance Directory - Metal Roof Deck Panels (CETW)**.

2A. **In lieu of Item 2, for use with Roofing Membrane*** — (Item 1B), insulation consisting of:

Foamed Plastic* — Nom 24 by 48 in. foamed plastic insulation boards to be placed on top of sheathing material Item 1B.

OC CELFORTEC LP — Min thickness 2 in., max thickness 8 in., extruded polystyrene foamed plastic boards, to be placed on top of sheathing material (Item 1B) and covered with crushed stone or concrete pavers at a rate of 10 psf, min

OWENS CORNING SCIENCE AND TECHNOLOGY, LLC — Min thickness 2 in., max thickness 8 in., extruded polystyrene foamed plastic boards, to be placed on top of sheathing material (Item 1B) and covered with crushed stone or concrete pavers at a rate of 10 psf, min

T CLEAR CORP — 4-3/8 in. thick, concrete mortar faced extruded polystyrene Lightguard Boards

DUPONT DE NEMOURS, INC. — Min thickness 2 in., Max thickness 8 in., extruded polystyrene foamed plastic boards. The unfaced boards shall be covered with crushed stone or concrete pavers, at a rate of 10 psf, min

4. **Gypsum Board** — (Classified or unclassified) — Supplied in sheets nom 2 by 4 ft to 4 by 12 ft, by nom 5/8 in. thick. Min weight 2.0 psf. Applied perpendicular to steel roof deck direction with adhesive or laid loosely. End joints to occur over crests of steel roof deck with end joints staggered 2 ft in adjacent rows.

AMERICAN GYPSUM CO ([View Classification](#)) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO ([View Classification](#)) — CKNX.R19374

CABOT MANUFACTURING ULC ([View Classification](#)) — CKNX.R25370

CERTAINTED GYPSUM INC ([View Classification](#)) — CKNX.R3660

CGC INC ([View Classification](#)) — CKNX.R19751

CERTAINTED GYPSUM INC ([View Classification](#)) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C ([View Classification](#)) — CKNX.R2717

NATIONAL GYPSUM CO ([View Classification](#)) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM ([View Classification](#)) — CKNX.R7094

PANEL REY S A ([View Classification](#)) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD ([View Classification](#)) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL ([View Classification](#)) — CKNX.R27517

UNITED STATES GYPSUM CO ([View Classification](#)) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC ([View Classification](#)) — CKNX. R38438

USG MEXICO S A DE C V ([View Classification](#)) — CKNX.R16089

5. **Steel Roof Deck** — Min 1 in. deep, min 25 in. wide, fluted painted or galv steel deck. Min 0.019 in. thick (26 gauge). Flutes approx. 4 in. OC, crests approx. 2-3/4 in. wide. As an alternate, 1-1/2 in. deep, min 18 in. wide fluted galv steel deck. Min 0.029 in. thick (22 gauge), flutes 6 in. OC, crest width ranging from 3-1/2 to 5 in. Welded to supports with welding washers 12 in. OC. Side lap joints of adjacent units welded or secured together with No. 12 by 1/2 in. self-drilling, self-tapping steel screws midway between steel joists. **Classified Steel Floor and Form Units*** Noncomposite fluted or corrugated, min 0.023 in. thick (24 gauge), 24 to 36 in. wide, 1-5/16, 1-1/2, 2 or 3 in. deep painted or galv steel units. Spacing of welds attaching units to supports shall not exceed 12 in. OC Adjacent units welded together 36 in. OC along side joints.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — 36 in. wide, Types BH-36, BHN-36, BHN-35-1/4, DGB-36, B-36, BN-36, BN-35-1/4, NH-32, NHN-32, DGN-32, and NN-32. All units may be galvanized or Prime Shield™. Non-cellular decks may be vented designated with a "V" suffix to the product name

CANAM GROUP INC — 36 in. wide Type P-3606 or P-3615; 36 in. wide Types 1.5B, 1.5BI

CANAM STEEL CORP — Type B

DECK WEST INC — Type B-DW or BA-DW

GOODER HENRICHSEN CO. — Type B

INTSEL STEEL EAST LLC — 36 in. wide Type 1.5" B-DECK/ROOF, 24 in. wide Type N-DECK/ROOF.

MARLYN STEEL DECKS INC — Types B, F

NEW MILLENNIUM BUILDING SYSTEMS L L C — Types B, BD, BI, F, FD, 1.0RD, N, NW32, and NW32I. Units may be phos/painted or galvanized

OEG BUILDING MATERIALS — Types 1-1/2", 2" and 3" deep Roof Decks

ROOF DECK INC — Types A, B-1, B-2, EHD Multi-Rib or F

VALLEY JOIST+DECK — Types F, B, BI

VERCO DECKING INC - A NUCOR CO — Deck types PLB, HSB, PLN3, HSN3, PLN, N, Deep VERCOR™, Deep VERCOR VENTLOK; FORMLOK™ deck types PLB, B, PLN3, N3, PLN, N. Units may be galvanized, phos./ptd., or mill finish. Deck may be vented or non-vented.

VULCRAFT, DIV OF NUCOR CORP — Types 1.0E, 1.5A, 1.5B, 1.5BI, 1.5PLB, 1.5F, 3.0N, 3.0NI, 3.0PLN, 3NL-32, 3NI-32, 3PLN-32; Types BW, B High Strength, BW High Strength, TF-75, TF-150, TV-75, TF S3, TV S3. Type BW unit may be galv or phos/ptd

6A. Mechanical Fasteners — (Not Shown) — Any steel nail or steel clip type fastener designed for the purpose may be used to attach one or more layers of insulation to steel roof deck (through gypsum board). As an alternate, the gypsum wallboard may be attached directly to the steel roof deck with the mechanical fasteners.

7. Steel Joists — Type 10J4 or 12K1 min size. 10K1 size may be used for a limited span of 12 ft-0 in. max. As alternate, any LH-Series steel joist spanning no greater than 60 ft may be used. For spans greater than 60 ft., LH-Series joists may be used provided that their vertical deflection under published total load shall not be greater than 1/244 of the joist span. Joist may be spaced a max 72 in. OC and welded to end supports.

8. Bridging — Steel bars, 1/2 in. diam welded to top and bottom chords of each joist.

9. Cold Rolled Channels — No. 16 MSG cold-rolled steel channels, 1-1/2 in. deep with 9/16 in. flanges. Placed on lower chord of joists and secured with 18 SWG galv steel wire. Installed perpendicular to joists, located as required to provide hanger wire attachment points.

When steel joists are spaced more than 5 ft. OC, two cold-rolled channels placed back to back and tied together with double strand of 18 SWG galv steel wire at 24 in. OC. The double channels installed perpendicular to the joists and spaced a max of 48 in. OC may be placed on top of the joists' bottom chord and tied to each joist with a double strand of 18 SWG galv steel wire or suspended below the joists with 12 SWG galv steel wire wrapped around the cold-rolled channels and with the other end wrapped around the bottom chord of the joists.

10. Hanger Wire — No. 12 SWG galv steel wire twist-tied to steel joists or cold-rolled steel channels. When the ceiling consists of nom 24 by 24 or 24 by 48 in. panels, hanger wires spaced max of 48 in. OC on main runners adjacent to cross tee intersections. Hanger wires to occur at all four corners of light fixtures, at midspan of cross tees adjacent to 4 ft light fixtures, air duct outlets, and adjacent to each main runner splice. When the ceiling consists of nom 20 by 60 in. panels, hanger wires shall be spaced 40 in. OC along main runners, one wire shall occur at each corner of light fixtures, at midspan of all cross tees, and adjacent to each main runner splice.

11. Air Duct — Min 0.019 in. thick (26 gauge) galv steel. Total area of duct openings not to exceed 255 sq in. per each 100 sq ft of ceiling area. Area of individual duct opening not to exceed 255 sq in. Max dimension of opening 18 in. Inside and outside faces of duct throat protected with 1/16 in. thick ceramic fiber paper laminated to the metal. For the 1 hr **Assembly and Beam Ratings** only, the ceramic fiber paper laminated to the inside and outside faces of the duct throat may be omitted. For the 1 hr **Assembly and Beam Ratings** only, the total area of duct openings per 100 sq ft of ceiling area may be increased to 576 sq in., with the area of ind duct opening not to exceed 576 sq in. Max dimension of opening 30 in. Duct supported by 1-1/2 in. deep, min 0.053 in. thick (16 gauge) cold-rolled steel channels spaced not over 48 in. OC suspended by 12 SWG galv steel wire.

As an alternate to the galv steel duct, air ducts fabricated from rigid **Air Duct Materials*** may be used in lieu of steel ducts. Total area of duct openings not to exceed 57 sq in. per each 100 sq ft of ceiling area. Area of individual duct opening not to exceed 113 sq in. Max dimension of opening 12 in. The sheet steel duct drop or outlet is positioned at the center of a 24 in. long min 0.029 in. thick (22 gauge) sheet steel duct liner. The sheet steel duct drop is insulated with a nom 1 in. thick, 5 pcf density rigid glass fiber material. The ducts are supported by min 0.053 in. thick (16 gauge) 1-1/2 in. cold-rolled steel channels suspended from the joists with 12 SWG galv hanger wire. Channels are located directly below the sheet steel duct liner, one on each side of the duct drop and are spaced between duct drops at 72 in. OC for ducts up to 36 in. wide and 48 in. OC for ducts between 36 and 60 in. wide.

KNAUF INSULATION LLC — Rigid, Class I

12. Damper — Min 0.056 in. thick (16 gauge) galv steel, sized to overlap duct opening 2 in. min. Protected on both sides with 1/16 in. thick ceramic fiber paper laminated to the metal and held open with a Fusible Link (Bearing the UL Listing Mark). For the 1 hr Assembly and Beam Ratings only, Duct Outlet Protection System A, as described in the Design Information Section, may be used in lieu of the damper described above.

12A. Air Terminal Units* — (Not Shown) — May be used as an alternate to air duct outlets with surface mounted diffusers (Item 11) for the **1 Hr. Assembly Ratings Only**. A max of 16 lin ft of diffuser slot is allowed for each 100 sq ft of ceiling area. Units must be supported

from the structural steel or from cold-rolled steel channels tied to the structural steel and installed in accordance with accompanying installation instructions.

13. Fixtures, Recessed Light — (Bearing the UL Listing Mark). Recessed light fixture with steel housing, nom 2 by 4 ft or 20 by 60 in. size. Fixtures spaced so their area does not exceed 24 sq ft per 100 sq ft of ceiling area. When 20 by 60 in. fixtures are used, fixture stabilizers (Item 13A) shall be used in addition to the hanger wires at midspan of the cross tees. Wired in conformance with the National Electrical Code. Fixture and ballasts must be considered for these ambient temperature conditions before installation.

13B. Fixtures, Recessed Light — (Bearing the UL Listing Mark) — (Not Shown) — As an alternate to Item 13, incandescent lamp type, steel housing, nom 6-1/2 in. diam by 7-1/2 in. high. Each fixture provided with a nom 6-1/2 in. by 10 in. painted steel base plate screw-attached to the "high hat" fixture with four steel screws. Base plate to be provided with steel bar hangers designed to span across nom 24 in. spacing of cross tees for fixture support. Fixture supported from roof structure or from cold-rolled steel channel, independent of ceiling cross tees, with steel hanger wires secured to steel bar hangers near each corner of the base plate. A max of two "high hat" fixtures may be substituted for each nom 24 by 48 in. fixture permitted in the ceiling (max six "high hat" fixtures per 100 square ft of ceiling area). Wired in conformance with the National Electrical Code.

13C. Alternate Recessed Light Fixtures — (Not Shown) — As an alternate to the recessed light fixture, High Intensity Discharge (HID) lighting fixture may be used at a spacing of three per min 100 sq ft of ceiling area. These fixtures are used in conjunction with the nom 24 by 24 in. acoustical panels. The fixture consists of 20 MSG or heavier steel mounting pan having 23-3/4 by 23-3/4 in. outside dimensions and a 13-1/2 in. diam opening at its center with a 5/8 in. high stiffening return flange at all four sides. The reflector and reflector top are made of spun aluminum. The total height of the reflector and the reflector top is 17-1/2 in. The total weight of the fixture with lamp and ballast shall not exceed 40 lb. The 24 by 24 in. suspension system module containing the HID fixture shall be supported at each corner by a hanger wire. Electrical wiring of the fixture shall conform with the National Electrical Code.

14. Fixture Protection* — Acoustical Material — 5/8 in. thick, cut to form a five sided enclosure, trapezoidal in cross-section, approx. 1/2 in. longer and wider and 5/8 in. higher than the light fixture housing. For 2 by 4 ft fixture the protection consists of a 23-3/4 by 47-3/4 in. top piece, two 5-7/8 by 47-3/4 in. side pieces, and two 4-1/2 by 23-3/4 in. end pieces. For 20 by 60 in. fixture the protection consists of a nom 20 by 60 in. top piece, two nom 6 by 60 in. side pieces, and two nom 4-1/2 by 20 in. end pieces. The top edge of each fixture protection side piece may be provided with a 1 in. deep by max 20 in. long notch near its midpoint. The side and top pieces are laid in place and the end pieces are held in place with three 8d nails spaced 8 in. OC. (S)=Surface perforations.

ARMSTRONG WORLD INDUSTRIES INC — Type 5/8 in. P (S); 5/8 in. PC (S).

14A. Fixture Protection* — Acoustical Material — For use with "high hat" light fixtures (Item 13B). Five sided enclosure, rectangular in cross section, approx. 1 in. longer and wider than fixture with sufficient depth to provide 1 in. clearance to the top of the fixture. Pieces cut from same acoustical material used in the ceiling (Item 16) and assembled using Type 8d nails. One side of the fixture protection enclosure may be cut 1 in. shorter than the height of the enclosure such that a 1 in. high clearance is maintained between its top and the top of the enclosure.

14B. Fixture Protection For Alternate Fixture (Item 13C)* — Acoustical Material — (Not Shown) — Five sided box enclosure with 1 in. high opening at top of two opposite sides. Pieces cut from the same acoustical material as Item 19. Top piece is 23-3/4 by 23-3/4 in. size; two opposite side pieces each is 23-3/4 in. long by the height of the fixture plus 1 in.; remaining two opposite side pieces each is 22-1/2 in. long by the height of the fixture. Pieces assembled with 8d nails spaced 6 in. OC.

15. Steel Framing Members* — Main runners and cross tees in combinations listed below.

A. Main runners nom 12 ft long, spaced 4 ft OC. Cross tees nom 4 ft long, installed perpendicular to main runners and spaced 2 ft OC. Cross tees nom 2 ft long, installed perpendicular to 4 ft cross tees and spaced 4 ft OC. For nom 24x24 and 24x48 in. panels.

ARMSTRONG WORLD INDUSTRIES INC — Types AFG, AFG-A. For the 1 hr Assembly and Beam Ratings only, Type AFG-A steel framing members may be used. Types AFG-LT and AFG-MX steel framing members for use with 24 by 24 in. panels. Type GLBP (consisting of main runners, 4 ft cross tees and steel straps) for use with 24 by 48 in. Type P or PC lay-in panels.

BAILEY METAL PRODUCTS LTD — Type BEF

CERTAINTED CORP — Types FSS2-12-15, FSS4-12-15, FSS12-12-15, RS12-12-15, RS4-12-15, RS2-12-15, FSEZ2-12-12, FSEZ4-12-12, FSEZ12-12-15, FSEZ2-12-20, FSEZ4-12-20, FSEZ12-12-20

CGC INC — Types DXL, DXLZ, SDXL

ROXUL USA INC. D/B/A ROCKFON — Types 250, 260, 1250, 1260, 1850, 1860. When Types 260, 1260, 1860 steel framing members are used, the Assembly and Beam Ratings are 1 hr

B. Main runners nom 10 ft long spaced 60 in. OC. Cross tees nom 5 ft long, installed perpendicular to main runners and spaced 20 in. OC. For nom 20x60 in. panels.

ROXUL USA INC. D/B/A ROCKFON — Types 250, 260, 1250, 1260, 1850, 1860

C. Main runners 10 or 12 ft long, spaced 4 ft OC. Cross tees nom 4 ft long, installed perpendicular to main runners and spaced 2 ft OC. When nom 2 by 2 ft lay-in panels are used, nom 2 ft long cross tees installed perpendicular to 4 ft cross tees at midspan, spaced 4 ft OC. Border panels supported at walls by min. 0.016 in. thick painted steel angle with 7/8 in. legs or min. 0.016 in. thick painted steel channel with a 1 by 1-9/16 by 1/2 in. profile.

USG INTERIORS LLC — Types DXL, DXLZ, SDXL

16. **Acoustical Material*** — Nom 24 by 24 or 48 in. or 20 by 60 in. lay-in panels. Border panels supported at walls by min 0.016 in. thick (26 gauge) painted steel angle with 7/8 in. legs; or, min 0.016 in. thick (26 gauge) painted steel channel, 1-5/8 in. deep with 7/8 in. flanges. (S)=Surface perforations.

Nom Panel Size	Restrained Assembly Rating Hr	Unrestrained Assembly & Beam Rating Hr	Acoustical Mtl Type
24 x 24	1 hr.	1 hr.	BF, P or PC
24 x 48 or 20 x 60	1-1/2 hr.	1 hr.	PC
24 x 48 or 20 x 60	1-1/2 hr.	1-1/2 hr.	P

ARMSTRONG WORLD INDUSTRIES INC — Type 5/8 in. P (S); 5/8 in. PC (S); 3/4 in. BF (S)

Type P or PC (S, P) 15 mm thick 600x600 or 1200 mm. These metric size panels may only be used with metric size grid described under item 15A. Hourly ratings shown for 24x24 in. size panels apply to 600x600 mm size panels while ratings shown for 24x48 in. panels apply to 600x1200 mm size panels.

18. **Hold-Down Clips** — (Not Shown) — No. 24 MSG spring steel, places over cross-tees 2 ft OC.

19. **Discrete Products Installed in Air-handling Spaces*** — Automatic Balancing Valve/Damper (Not Shown - Optional) — For use with item 12. Valve/Damper to be provided with ducted installation with steel duct per damper manufacturer's instructions. Automatic Balancing Valve/Damper shall be installed within duct such that it is not directly above the ceiling radiation damper.

METAL INDUSTRIES INC — Model ABV-4, ABV-5, ABV-6

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2024-05-01

SECTION 083326 - OVERHEAD COILING GRILLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Open-curtain overhead coiling grilles.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type and size of overhead coiling grille and accessory.
 - 1. Include construction details, material descriptions, dimensions of individual components, profiles for curtain components, and finishes.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
- B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
 - 1. Include plans, elevations, sections, and mounting details.
 - 2. Include details of equipment assemblies. Indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
 - 4. Show locations of controls, locking devices, and other accessories.
 - 5. Include diagrams for power, signal, and control wiring.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For overhead coiling grilles to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of grilles that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Project Acceptance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain overhead coiling grilles from single source from single manufacturer.

1. Obtain operators and controls from overhead coiling-grille manufacturer.

2.2 OPEN-CURTAIN GRILLE ASSEMBLY (8'-0" HIGH X 21'-9 1/8")

- A. Open-Curtain Grille: Overhead coiling grille with a curtain having a network of horizontal rods that interconnect with vertical links.

- B. Operation Cycles: Grille components and operators capable of operating for not less than 50,000. One operation cycle is complete when a grille is opened from the closed position to the fully open position and returned to the closed position.

1. Include tamperproof cycle counter.

- C. Grille Curtain Material: Stainless steel.

1. Rod Spacing: Approximately 2 inches o.c.
2. Link Spacing: Approximately 6 inches apart in a straight in-line pattern.
3. Spacers: Metal tubes matching curtain material.

- D. Bottom Bar: Continuous tubular shape, fabricated from stainless steel and finished.

- E. Curtain Jamb Guides: Stainless steel with exposed finish. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise. Provide removable post(s) and jamb guides where required by manufacturer.

- F. Hood: Match curtain material and finish.

1. Shape: Square above ceiling.
2. Mounting: Above ceiling.

- G. Locking Devices: Equip grille with locking device assembly and chain lock keeper.

1. Locking Device Assembly: Cremone-type, both jamb sides locking bars, operable from inside and outside with cylinders.

- H. Electric Grille Operator:

1. Usage Classification: Standard duty, up to 25 cycles per hour and up to 90 cycles per day.
2. Operator Location: Top of hood.
3. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use.
4. Motor Exposure: Interior.
5. Motor Electrical Characteristics:
 - a. Horsepower: 1 hp.
 - b. Voltage, Single Phase, 60 Hz: 115-V ac.
6. Emergency Manual Operation: Push-up type.

7. Obstruction-Detection Device: Automatic pneumatic sensor edge on bottom bar.
 - a. Sensor Edge Bulb Color: Black.
 8. Control Station: Interior mounted.
 - I. Curtain Accessories: Equip grille with push/pull handles.
 - J. Grille Finish:
 1. Stainless Steel Finish: No. 4 (polished directional satin).
- 2.3 OPEN-CURTAIN COUNTERTOP GRILLE ASSEMBLY (6'-0" WIDE x 4'-4" HGH)
- A. Open-Curtain Grille: Overhead, countertop grille with a curtain having a network of horizontal rods that interconnect with vertical links.
 - B. Operation Cycles: Grille components and operators capable of operating for not less than 50,000. One operation cycle is complete when a grille is opened from the closed position to the fully open position and returned to the closed position.
 1. Include tamperproof cycle counter.
 - C. Grille Curtain Material: Stainless steel.
 1. Rod Spacing: Approximately 2 inches o.c.
 2. Link Spacing: Approximately 6 inches apart in a straight in-line pattern.
 3. Spacers: Metal tubes matching curtain material.
 - D. Bottom Bar: Continuous tubular shape, fabricated from stainless steel and finished.
 - E. Curtain Jamb Guides: Stainless steel with exposed finish. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise. Provide removable post(s) and jamb guides where required by manufacturer.
 - F. Hood: Match curtain material and finish.
 1. Shape: Round.
 2. Mounting: Face of wall.
 - G. Locking Devices: Equip grille with locking device assembly and chain lock keeper.
 1. Locking Device Assembly: Cremone-type, both jamb sides locking bars, operable from inside and outside with cylinders.
 - H. Electric Grille Operator:
 1. Usage Classification: Standard duty, up to 25 cycles per hour and up to 90 cycles per day.
 2. Operator Location: Wall.
 3. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use.
 4. Motor Exposure: Interior.
 5. Motor Electrical Characteristics:
 - a. Horsepower: 1 hp.

- b. Voltage, Single Phase, 60 Hz: 115-V ac.
- 6. Emergency Manual Operation: Push-up type.
- 7. Obstruction-Detection Device: Automatic pneumatic sensor edge on bottom bar.
 - a. Sensor Edge Bulb Color: Black.
- 8. Control Station: Interior mounted.
- I. Curtain Accessories: Equip grille with push/pull handles.
- J. Grille Finish:
 - 1. Stainless Steel Finish: No. 4 (polished directional satin).

2.4 MATERIALS, GENERAL

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.5 GRILLE CURTAIN MATERIALS AND CONSTRUCTION

- A. Open-Curtain Grilles: Fabricate metal grille curtain as an open network of horizontal rods, spaced at regular intervals, that are interconnected with vertical links, which are formed and spaced as indicated and are free to rotate on the rods.
 - 1. Stainless Steel Grille Curtain: ASTM A666 or ASTM A240/A240M, Type 300 series.
- B. Bottom Bar: Manufacturer's standard continuous shape unless otherwise indicated, finished to match grille.
 - 1. Astragal: Equip grille bottom bar with a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene as a cushion bumper.
 - 2. Provide motor-operated grilles with combination bottom astragal and sensor edge.
- C. Grille Curtain Jamb Guides: Manufacturer's standard shape having curtain groove with return lips or bars to retain curtain. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise; with removable stops on guides to prevent overtravel of curtain.
 - 1. Removable Posts and Jamb Guides: Manufacturer's standard.

2.6 HOODS AND ACCESSORIES

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
 - 1. Stainless Steel: 0.025-inch-thick, stainless steel sheet, Type 304, complying with ASTM A666 or ASTM A240/A240M.

- B. Removable Metal Soffit: Formed or extruded from same metal and with same finish as curtain if hood is mounted above ceiling unless otherwise indicated.
- C. Mounting Frame: Manufacturer's standard mounting frame designed to support grille; factory fabricated from ASTM A36/A36M structural-steel tubes or shapes, hot-dip galvanized per ASTM A123/A123M; fastened to floor and structure above grille; to be built into wall construction; and complete with anchors, connections, and fasteners.
- D. Push/Pull Handles: Equip push-up-operated or emergency-operated grille with lifting handles on each side of grille, finished to match grille.

2.7 COUNTERBALANCE MECHANISM

- A. General: Counterbalance grilles by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, seamless or welded carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of parts and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

2.8 ELECTRIC GRILLE OPERATORS

- A. General: Electric grille operator assembly of size and capacity recommended and provided by grille manufacturer for grille and operation cycles requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, control stations, control devices, integral gearing for locking grille, and accessories required for proper operation.
 - 1. Comply with NFPA 70.
 - 2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V ac or dc.
- B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each grille.
- C. Grille Operator Location(s): Operator location indicated for each grille.
 - 1. Top-of-Hood Mounted: Operator is mounted to the right or left grille head plate, with the operator on top of the grille-hood assembly and connected to the grille drive shaft with drive chain and sprockets. Headroom is required for this type of mounting.
 - 2. Front-of-Hood Mounted: Operator is mounted to the right or left grille head plate, with the operator on coil side of the grille-hood assembly and connected to the grille drive shaft with drive chain and sprockets. Front clearance is required for this type of mounting.
 - 3. Wall Mounted: Operator is mounted to the inside front wall on the left or right side of grille and connected to grille drive shaft with drive chain and sprockets. Side room is required for this type of mounting. Wall-mounted operator can also be mounted above or below shaft; if above shaft, headroom is required.
 - 4. Bench Mounted: Operator is mounted to the right or left grille head plate and connected to the grille drive shaft with drive chain and sprockets. Side room is required for this type of mounting.

- D. Motors: Reversible-type motor with controller (disconnect switch) for motor exposure indicated for each grille assembly.
 - 1. Electrical Characteristics: Minimum as indicated for each grille assembly. If not indicated, large enough to start, accelerate, and operate grille in either direction from any position, at a speed not less than 8 in./sec. and not more than 12 in./sec., without exceeding nameplate ratings or service factor.
 - 2. Operating Controls, Controllers (Disconnect Switches), Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
 - 3. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.
- E. Limit Switches: Equip each motorized grille with adjustable switches interlocked with motor controls and set to automatically stop grille at fully opened and fully closed positions.
- F. Obstruction-Detection Devices: External entrapment protection consisting of indicated automatic safety sensor capable of protecting full width of grille opening. Activation of sensor immediately stops and reverses downward grille travel.
 - 1. Pneumatic Sensor Edge: Automatic safety sensor edge, located within astragal mounted to bottom bar. Contact with sensor activates device.
- G. Control Station: Three-button control station in fixed location with momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."
 - 1. Interior-Mounted Units: Full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.
- H. Emergency Manual Operation: Equip electrically powered grille with capability for emergency manual operation. Design manual mechanism so required force for grille operation does not exceed 25 lbf.
- I. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.
- J. Motor Removal: Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency manual operation.

2.9 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.10 STAINLESS STEEL FINISHES

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.

- B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
 - 1. Run grain of directional finishes with long dimension of each piece.
 - 2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
 - 3. Directional Satin Finish: No. 4.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.
- B. Examine locations of electrical connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install overhead coiling grilles and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports, according to manufacturer's written instructions and as specified.
- B. Install overhead coiling grilles, hoods, controls, and operators at the mounting locations indicated for each grille.
- C. Accessibility: Install overhead coiling grilles, switches, and controls along accessible routes in compliance with the accessibility standard.
- D. Power-Operated Grilles: Install according to UL 325.

3.3 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.
 - 2. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.
 - 3. Test grille opening when activated by detector, fire-alarm system, emergency-egress release, or self-opening mechanism as required. Reset grille-opening mechanism after successful test.

3.4 ADJUSTING

- A. Adjust hardware and moving parts to function smoothly, so that grilles operate easily, free of warp, twist, or distortion.
 - 1. Adjust exterior components to be weather resistant.
- B. Lubricate bearings and sliding parts as recommended by manufacturer.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling grilles.

END OF SECTION 083326