3t architects
AN SWBR COMPANY

ADDENDUM

PROJECT:	Scotia Branch Library Addition RFB-2021-34	**ADDENDUM #:**	2
PROJECT #:	17-073	**DATE OF ISSUE:**	1/15/2021
LOCATION:	Scotia, NY	**METHOD OF DELIVERY:**	Email

This addendum forms part of the Construction Drawings and modifies previously issued documents as noted below.

Following is the clarification to all bidders regarding the Apprenticeship Certification program requirement:

In accordance with **Schenectady County Legislative Resolution No. 22 of February 11, 2003 and Section 816-b of the new York State Labor Law**, contractors and subcontractors of County construction contracts of $200,000 or more shall have in place agreements providing appropriate apprenticeship training programs approved by the Commissioner of the Department of Labor for the type and scope of work to be performed before the contracts are let. These agreements shall conform to the procedures and requirements set forth in Section 816-b of the New York State Labor Law.

Therefore, for any prime contract (regardless of type) that is bid at an amount greater than or equal to $200,000, the **primary bidder AND all sub-contractors** to that bidder must have an appropriate apprenticeship training program regardless of the amount of their individual portion of the work.

The following information is provided to clarify the scope of work and to address the questions submitted by bidders:

1. **The General Instructions to Bidders reference the liquidated dates, but no amount specified. Are any liquidated damages for this project?**
   There are no liquidated damages for this project.

2. **The drawings don't show any paving, but there is a paving spec. 32 12 16.**
   The scope of work shall be as indicated on the drawing C101. Any existing paving that is damaged during construction shall be repaired in kind.

3. **Please provide the specifications or the Basis of Design for the Spray Foam insulation and Window Blinds called out on the drawing.**
   See specification section 07 21 00 for spray polyurethane foam insulation.
   See specification section 12 21 13 for window blinds.

4. **On the drawing S100 the Foundation General Notes #2 reads: "Actual Conditions Shall Be Field Verified By A Licensed Geotechnical Engineer Prior To Footing Placement". Please confirm that the Licensed Geotechnical Engineer will be employed by the owner.**
   The Owner will retain a geotech engineer, if needed, to make visual inspection if any questionable soils are encountered during excavation/construction.

5. **The door schedule on the drawing A601 calls out for the 2" doors, the specification 08 16 15 "Molded Panel Doors" for 1 3/8" and for 1 ¾" door units- item 2.02.C.e and 2.03 B.f**

Provide 1-3/4" thick doors at all locations indicated (for new doors).

6. **The hinge sizes called out in the door spec 08 16 15 "Molded Panel Doors" don't match with hinge sizes called out in the "Door Hardware" spec 08 71 00**
   Provide 4-1/2" hinges unless noted otherwise on the drawings.

7. **On the drawing A401 the Bathroom Accessories Schedule lists the Moen grab bars R7418, R7424, R7436, R7442. These Grab Bars are actually EXPOSED SCREW Flange Grab Bars. Please consider using the Bobrick grab bars which comes with the flange covers; it also will be inline with the other listed Bobrick Bathroom accessories.**
   Provide grab bars with flange covers. Moen R89 series has flange covers. Bobrick is also acceptable.

8. **Framed Exterior Wall type "E" detail (drawing A001):**

   a. **The exterior wall wood stud framing shall be (2) 2x6. What does (2) depicts? Does it means that the wall shall have the double 2x6 studs everywhere? If yes this would contradict the detail 2/S102.**
      (2) is a typo. There are no double studs in the exterior walls.

   b. **According to the referenced detail the exterior sheathing shall be ½" plywood. The specification 06 16 10 "Sheathing" (page 4 and 5) besides the Plywood Sheathing also calls out for a ZIP Thermal 1-1/2" Composite Insulation Wall Sheathing and for a ZIP System Sheathing. Which of these sheathing applies to these walls? Where the other listed sheathings shall be used?**
      Provide sheathing as indicated on the drawings. If plywood is indicated, provide plywood.

   c. **The detail calls out for a Weather Resistive Barrier. Is it a Tyvek type barrier or something else? Please provide the specification or basis-of-design.**
      See specification section 07 25 00 for weather barriers.

   d. **The wall insulation called out to be R-21 + R-5. Could R5 insulation be achieved using the 1" rigid insulation or by the other means?**
      Per energy code, we can have R-20 in the exterior wood framed walls. Provide R-20 insulation in the wall cavities, accordingly.

9. **According to 1/S101 the Bilco door shall remain. Per the key note N8 on the drawing A101 this basement door shall be replaced.**
   Provide new bilco door as indicated on drawing A101.

10. **The specification 06 16 10 "Sheathing" calls out for "Preservative Treated Plywood", Fire-Retardant-Treated Plywood, Plywood Subflooring and Underlayment. None of these are called out on the drawings.**
    Provide sheathing as indicated on the drawings.

11. **The detail 3/A301 reads: "EXT. 5/8" Sheathing (see structural DWG). The structural detail 3/S103 calls out for a Plywood sheathing, but the specification 06 16 10 "Sheathing" also calls out for the ZIP Oriented-Strand Board Roof Sheathing.**
    Provide sheathing as indicated on the drawings. Per detail 3/A301 provide exterior grade 5/8" thick sheathing as indicated on the drawing.

12. **Spec section 23 33 30, item1.6 "Related Work Specified Elsewhere" lists 'Section 230713-Ductwork Insulation'. We cannot find spec section 230713.**
    See attached specification section for ductwork insulation.

13. **You are asking for a 612 finish (Satin Bronze), which does not exist in this Yale 4300 series locksets requested for door sets 2-5. Would you prefer a silver style finish?**
    Provide 626 Satin Chromium finish for all door locksets, for uniformity.

14. **Mechanical scope of work**
    Delete all references to Fin Tube Radiation. It is not being used in the project.

15. **Drawing M301**
    Revise note 9 to read: Provide pre-insulated HDPE pipe with manufacturer's HDPE to pex transition in wall cavity. Provide all wiring for pump to be connected to existing Taco zone controller..

END OF ADDENDUM No. 2

SECTION 23 07 13 - DUCTWORK INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 WORK INCLUDED

A. Insulate all ducts and as required by contract documents.

1.3 REFERENCES

A. Test standards and reports for evaluating and rating performance of fire rated shaft enclosures and zero inch clearance ratings for duct wrap systems for compliance to Code.

1. ISO 6944-1985, 'Fire Resistive Tests - Ventilation Ducts'.

2. ASTM E 2336, 'Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems'.

3. ASTM E 814 (UL1479), 'Fire Tests of Through-Penetration Fire Stops Standard'.

4. ASTM E 84, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.

5. ASTM C 1338, 'Fungi Resistance of Insulation Materials and Facings Standard'.

6. NFPA 96 'Standard for Ventilation Control & Fire Protection of Commercial Cooking Operations'.

1.4 SUBMITTALS

A. Manufacturer data for all materials used in contract. Submit schedule of insulation applications.

PART 2 - PRODUCTS

2.1 DUCTWORK INSULATION

A. NOTE: IF A CONDITION IS NOT LISTED BELOW, IT SHALL BE INSULATED WITH 2" RB.

B. All exhaust fan and relief hoods shall have the void between the duct and the curb completely insulated with FB insulation.

C. All relief/intake hoods, goosenecks, louvered penthouses and any other ductwork that has exterior termination that have exposed surfaces inside the building shall be insulated as outside air ductwork.

D. The following is a schedule for ductwork insulation:

	Duct System & Location	Type	Thickness	Notes
1.	Outside Air, Relief Air, and Exhaust Air Ducts & Plenum Exposed to Air at Outside Ambient Temperatures (For All Air Handling and Energy Recovery Units), Energy Recovery Exhaust:			
	a) Concealed Spaces	FB	3"	(2)
	b) Exposed Spaces	RB	2"	(1)
2.	Supply & Return Duct:			
	a) Concealed Spaces	FB	2"	(2)(4)
	b) Exposed Spaces	RB	2"	(1)(4)
3.	Return Duct within a plenum ceiling	NONE		(9)
4.	Exhaust Fan Ductwork	NONE		(5)
	a) Between the backdraft or mechanical damper and the space (ductwork having room conditioned ductwork), no insulation is required. All other exhaust ductwork (or if there is no damper present) shall be insulated as outside air ductwork.			
5.	Crawlspace	FB	2"	(2)(3)
6.	Kitchen Exhaust & Grease Duct	FRI	3"	(1)
7.	Duct Coils (coil & duct 3'-0" min. upstream & downstream, including the coil)	FB	2"	(2)
8.	VAV coils (boxes are lined, coils need to be insulated)	FB	2”	(2)
9.	All Exterior Ductwork	ERB	3”	(3)(6)(7)(8)
10.	Boiler Outside Air (Combustion) Duct (duct that connects directly to a boiler)	FB	1”	

Schedule Notes:

(1) Weld pins with tapered joints.
(2) Stapled edge with mechanical fasteners on ducts over 24" wide.
(3) Provide insulation whether duct is lined or not
(4) Ducts with internal liner do not require additional insulation unless otherwise noted. This does not apply to special 14 gauge supply duct.
(5) Exhaust duct exposed to air at ambient temperature must meet the requirements listed above.
(6) Provide continuous, water tight jacketing over all exterior ductwork.
(7) For ductwork over 24” wide, pitch insulation towards sides of duct.

(8) Pitch insulation at equipment connections away from equipment to prevent pooling and intake of water.

(9) Exterior insulation is not required on return ductwork contained within areas with a ceiling acting as a plenum return – provide exterior insulation per schedule on return ductwork when outside of areas of plenum return.

E. Duct insulating materials shall be as follows:

1. FB: Flexible fiberglass blanket type duct wrap with factory applied foil faced jacketing reinforced with fiberglass scrim laminated to UL rated kraft. Minimum thickness = 2in. Insulation shall be 1-lb/ft3 with a thermal conductivity (k-value) of 0.25 Btu x in/(hr x ft^2 x °F) at 75°F mean temperature when compressed. Provide with 2" stapling tab. Provide Type #100, Johns Manville; or equal.
2. FRI: Fireproof insulating material, non-asbestos, biosoluble, patented inorganic fire resistant blanket duct wrap insulation encapsulated with a scrim-reinforced foil, blanket thickness of 1.5" for kitchen exhaust grease duct applications marked with manufacturer's logo and UL and Intertek markings. Design use limit of 2192°F. Flame spread <25; smoke developed <50. Maximum flame spread 0 and smoke developed 0. R value of 4.15 and density of 6 pcf. Insulation shall be UL listed for 2 hour barrier. Duct wrap by 3M Fire Protection Products Duct Wrap 615+; or equal. Use with tape: High performance filament tape, 1" wide. Aluminum foil tape: 4” wide (for sealing cut blanket edges and seams). 3M No. 898; or equal.
   a) UL 2221 – Standard for tests of fire resistive grease duct enclosure assemblies.
   b) UL 1978 – Standard for grease ducts.
   c) NFPA 96 – Standard for ventilation control and fire protection of commercial cooking operations.
   d) NFPA-90A – Standard for the installation of air conditioning and ventilating systems.
3. RB: Factory fabricated rigid fiberglass board with factory applied white kraft facing bonded to aluminum foil, reinforced with fiberglass yarn. Minimum thickness = 2in. Temperature limit 450°F unfaced side, 3.0 lb./cu. ft. density. Thermal conductivity (k-value) of 0.23 Btu x in/(hr x ft^2 x °F) at 75°F mean temperature. Insulation to have a R value of 4.3 per inch. Type #814, Johns Manville; or equal.
4. ERB: Furnish and install 3" thick, closed-cell polyisocyanurate foam core board with foil facing on all ductwork segments and fittings installed outside of the building. Board shall have a R-value of 19 (for a 3” thick sheet). Board shall act as a vapor barrier with a vapor permeance of 0.05 perms. Provide Johns Manville AP Foil Faced; or equal.

F. Jacketing Material shall be Venture Clad 1579GCW-E as manufactured by Venture Tape; or approved equal. To be applied over all exterior ductwork insulation or exterior lined ductwork, and as noted elsewhere.

1. Jacketing material shall have a 24.0 mils thickness, 13-ply embossed aluminum made with (2) layers of aluminum foil, a layer of polyester film, an outer layer of tedlan film and an acrylic pressure sensitive adhesive layer.
2. Jacketing material to provide a 10 year membrane warranty, to be UV resistant and have zero permeability.

PART 3 - EXECUTION

3.1 INSTALLATION OF DUCTWORK INSULATION

A. All insulation, jacketing and accessories are to be installed in strict accordance with manufacturer's instructions.

B. Flexible Blanket Insulation (FB): Insulation shall be tightly wrapped around ductwork with all circumferential joints butted and longitudinal joints overlapped minimum of 2".

1. Adhere insulation to metal with 4" wide strips of insulation bonding adhesive at 8" on center and, on ductwork over 24" wide, additionally secure insulation to bottom with pins welded to duct 18" on center. On circumferential joints, secure 2" flange of facing using 9/16" flare door staples applied 6" on center and tape with 3" wide foil reinforced kraft tape. On longitudinal joints, secure overlap in the same manner. All pin penetrations or punctures in facing shall be similarly taped. If single blanket or sufficient thickness is not available, install two layers of equal thickness with vapor barrier facing on outer layer only.

C. Fireproof Insulating Material (FRI): Install two layers of 1.5” thick wrap with 4” overlap applied directly to the duct. Overlap perimeter and longitudinal joints 3" or 4” on both layers. Fiberglass filament tape may be used as a temporary hold until metal banding is in place on exterior layer. Install fire resistive duct wrap insulation in direct contact with ductwork to manufacturer's instructions and referenced standards. For duct widths greater than 24", weld insulation pins to bottom of horizontal ducts on a 12"x10.5" maximum grid spacing. Welded insulation pins to one of the wider sides of all vertical ducts on a 12"x10.5" maximum grid spacing. Impale duct wrap insulation over pins and secure with speed clips to prevent blanket sag. At duct access doors: Install duct wrap to manufacturer's instructions and procedures. Firestopping at fire separations:

1. Firestop all wrapped ductwork penetrating fire rated concrete floors, gypsum board, block and concrete wall assemblies and gypsum board shaftwall assemblies using UL and/or Intertek firestop system listings appropriate for the applicable duct wrap system.

2. Kitchen exhaust grease ducts: Fire resistive duct wrap insulation to be continuous through wall or floor penetrations. Maximum 3" clearance permitted between outer layer of duct wrap insulation and edge of opening. Fill annular space between edge of opening and wrapped duct with pieces of 3M duct wrap insulation or mineral wool insulation firmly packed into opening. Compress to percentage stated in firestop listing to minimum depth of 4". Recess packing material below surface on both sides of walls or top side only for floors to depth stated in firestop listing. Seal over packing material using 3M firestop sealant to depth stated in firestop listing, flush with top side of floor and both sides of wall surfaces.

D. Rigid Board Insulation (RB): Impale insulation over pins welded to duct on 21" centers, cut to extend 1/8" beyond face of board and cover with vapor seal mastic and self-locking cap. Seal all edges and butt joints with 5" wide strips of self-sealing pressure sensitive tape matching surface and finish of duct insulation.

E. Exterior Ductwork Insulation. Polyisocyanurate Board (ERB): Apply adhesive according to manufacturer's recommended coverage rates per area. Insulation to be adhered to ductwork with weld pins with tapered joints and adhesive, see below. Impale insulation over pins welded to duct on 21" centers, cut to extend 1/8" beyond face of board and cover with vapor seal mastic and self-locking cap. Seal all edges and butt joints with 5" wide strips of self-sealing pressure sensitive tape matching surface and finish of duct insulation. Insulation is to be applied to ductwork with joints tightly butted. All joints shall be fitted to eliminate voids. Any voids are to be eliminated by refitting or replacing sections of insulation.

1. Provide polyisocyanurate board on top, sides and bottom of duct with adhesive.

2. For ducts over 24", apply sloped polyisocyanurate insulation (Hunter board H-shield; or equal) over Polyisocyanurate insulation to provide a 12/1 pitch in the center of the duct to prevent snow buildup. Attach Polyisocyanurate insulation together with adhesive.
3. Insulate bottom of duct first, full width of duct.

4. Insulate sides next, same height as duct plus thickness of bottom sheet insulation.

5. Insulate top full width of duct plus thickness of side sheets both sides.

6. This contractor shall have a manufacturer's insulation representative instruct his personnel on the installation of this insulation and must be on the site the first day to review the installation.

F. Jacketing: Jacket to be applied to all surfaces of insulation and duct. Jacket to overlap previous section by minimum of 2".

END OF SECTION 23 07 13

Sign In Sheet

1.1 SUMMARY OF WORK

A. Scotia Branch Library Addition RFB-2021-34

B. Date: January 6, 2020 at 11:00 AM

Walk Through Sign in Sheet		
Name:	Company:	Email:
Matt Carroll	Dynamic Electrical Systems	mjcarroll120@gmail
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