ADDENDUM NO. 02

February 5, 2026

Kalamazoo Public Schools Northglade Montessori Magnet
1914 Cobb Ave
Kalamazoo, MI 49007

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated January 9, 2026, by TowerPinkster. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 2-1 through ADD 2-1 and TowerPinkster Addendum No. 02 dated January 9, 2026, consisting of 32 pages.

A. <u>SPECIFICATION SECTION 00 63 25-SUBSTITUTION DURING CONSTRUCTION REQUEST FORM</u>

1. Add Specification Section 00 63 25 – Substitution During Construction Request Form.
2. See attached Approved, Substation Requests:
   a. 08 4113 Aluminum Doors.
   b. 23 5216 Condensing Boilers.
   c. 23 8233 Finned Tube Radiator.

B. <u>Refer to the attached Request For Information summary, Pre-Bid RFI No. 01 through 08 are included.</u>

TowerPinkster

Architecture · Engineering · Interiors

ADDENDUM NO. 2

DATE OF ISSUANCE:	**February 4, 2026**
PROJECT:	**Northglade Montessori School** **1914 Cobb Ave** **Kalamazoo, MI 49007**
OWNER:	**Kalamazoo Public Schools**
ARCHITECT'S PROJECT NO.:	**23-638.00**
ORIGINAL BID ISSUE DATE:	**January 9, 2026**

SCOPE OF WORK

This Addendum includes changes to, or clarifications of, the original Bidding Documents and any previously issued addenda, and shall be included in the Bid. All of these Addendum items form a part of the Contract Documents. The Bidder shall acknowledge receipt of this Addendum in the appropriate space provided on the Bid Form. Failure to do so may result in disqualification of the Bid.

DOCUMENTS INCLUDED IN THIS ADDENDUM

This Addendum includes **4** pages of text and the following documents:

- Bidding Documents: **None**
- Contract Conditions: **None**
- Specification Sections: **08 4113, 08 8800 (referenced only)**
- Drawings: **AD 101, AD 101B, AD 201, A 101, A 101B, A 201, M 501, M 502, TG 001, TD 101A, T 101, T 101A, T 101B, T 101C, T 101D, T 402, T 441, T 442**

CHANGES TO PREVIOUSLY ISSUED ADDENDA

None.

CHANGES TO SPECIFICATIONS

ADD-2 Item No. S-1 - Glazing Clarification, Entrance Door System and Casement Windows

Refer to Specification Section: 08 4113, 08 8800

Insulated Spandrel Panel is located in section 08 4113, subsection 2.3. Citadel, Mapes or equivalent are acceptable.

Casement windows are now included under section 084113, subsection 2.3.F.

©2026 Tower Pinkster Titus Associates, Inc.

Entrance Door Systems, 2.4, A and B. Both door options, Plank or Stile and Rail, are allowed. Do not mix the two door types, stay consistent with type chosen.

In section 08 8800, IG-1 is clear glazing and IG-2 is an acid wash glazing.

ADD-2 Item No. S-2 - <Insert Title>

Refer to Specification Section:

Text of item.

CHANGES TO DRAWINGS

ADD-2 Item No. D-1 - Added AHU-1 Shipping Split Dimensions

Refer to Sheet(s): M 501

Provided dimensions for the shipping splits for AHU-1.

ADD-2 Item No. D-2 - Clarified OA Louver

Refer to Sheet(s): M 502

Changed note on Unit Ventilator detail to account for the existing louver.

ADD-2 Item No. D-3 - Added Door Access Control and Card Reader Rough-In Scope

Refer to Sheet(s): TG 001, T 101A, T 101B, T 101C, T 101D, T 441, T 442

Added keyed note “C2” to door locations receiving new door hardware and access controls. These locations shall have rough-ins provided by the EC.

Added “CM / EC Provided” column to “TECHNOLOGY PROVISION MATRIX” on TG 001.

Removed the “REFERENCE ONLY” note, as these sheets now have included access control cabling details. Refer to sheets T 441, T 442.

ADD-2 Item No. D-4 - Removed the “FOR REFERENCE ONLY” Note

Refer to Sheet(s): TG 001, T 101, T 101A, T 101B, T 101C, T 101D, T 441, T 442

Removed the “REFERENCE ONLY” note from sheets TG 001, T 101, T 101A, T 101B, T 101C, T 101D, as these sheets now have included scope. Refer to keyed note C2 scope.

Removed the “REFERENCE ONLY” note from sheets T 441, T 442, as these sheets now have access control cabling rough-in details that will be provided by the EC. Refer to the Access Control Door Schedule (T 441) and Door Rough-Ins (T 442).

©2026 Tower Pinkster Titus Associates, Inc.

ADD-2 Item No. D-5 - Revised Demo and New keyed notes on door A12A

Refer to Sheet(s): TD 101A, T 101A

This is shown for reference only. Revised the demo and new keyed notes on door A12A to show that the existing cabling shall be pulled back by the Technology Contractor and reinstalled during construction. Demo keyed note T11 and New Construction keyed note T7 no longer exist due to this revision.

ADD-2 Item No. D-6 - Added “GENERAL NOTES – ACCESS CONTROLS”

Refer to Sheet(s): TG 001

This is shown for reference only. Added "GENERAL NOTES – ACCESS CONTROLS."

ADD-2 Item No. D-7 - Revised Clock System Notes

Refer to Sheet(s): T 402

This is shown for reference only. Added note to IP Clock & Paging Cabling Detail. "4. Technology contractor shall remove all Primex hardware and antenna(s) from existing system. "

ADD-2 Item No. D-8 - Tunnel Access Locations

Refer to Sheet(s): AD 101, AD 101B, A 101, A 101B

Tunnel Access locations are updated based on findings of the constructability review. Tunnels are not fully accessible via room A11 but are accessible in B12A.

ADD-2 Item No. D-9 - Nightlock Hardware

Refer to Sheet(s): AD 101, A 101

Remove and salvage Nightlock hardware on door panels, jambs, floors, and associated storage boxes and locks as indicated. Portable classroom Nightlock hardware to be returned to owner.

ADD-2 Item No. D-10 - Lay-in Ceiling Removal and Reinstallation

Refer to Sheet(s): AD 201

Lay-in ceilings in Corridor A13, Classroom D1, Classroom D2, Classroom D10, Classroom D11, Corridor D12, and Storage D2A to be removed, salvaged, and reinstalled as required for mechanical work above ceiling.

©2026 Tower Pinkster Titus Associates, Inc.

END OF ADDENDUM.

©2026 Tower Pinkster Titus Associates, Inc.

SECTION 08 4113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Aluminum-framed storefront systems.
2. Aluminum-framed entrance door systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.

1. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
2. Include point-to-point wiring diagrams.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

E. Delegated-Design Submittal: For aluminum-framed entrances and storefronts including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Energy Performance Certificates: NFRC-certified energy performance values from manufacturer.

C. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures, including, but not limited to, excessive deflection.
b. Noise or vibration created by wind and thermal and structural movements.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
d. Water penetration through fixed glazing and framing areas.
e. Failure of operating components.

2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Aluminum-Framed Systems: Obtain from single source from single manufacturer.

1. Obtain aluminum doors and frames through a single source. Verify that doors and frames will operate and seal properly with specified hardware.

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 4000 "Quality Requirements," to design aluminum-framed entrances and storefronts.

B. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
Failure also includes the following:

a. Thermal stresses transferring to building structure.

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

b. Glass breakage.
c. Noise or vibration created by wind and thermal and structural movements.
d. Loosening or weakening of fasteners, attachments, and other components.
e. Failure of operating units.

C. Structural Loads:

1. Wind Loads: As indicated on Drawings.

D. Deflection of Framing Members Supporting Glass: At design wind load, as follows:

1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches and to 1/240 of clear span plus 1/4 inch for spans greater than 13 feet 6 inches.
2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8 inch.

a. Operable Units: Provide a minimum 1/16-inch clearance between framing members and operable units.

3. Cantilever Deflection: Limited to 2l/175 at unsupported cantilevers.

E. Structural: Test according to ASTM E 330/E 330M as follows:

1. When tested at positive and negative wind-load design pressures, storefront assemblies, including entrance doors, do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, storefront assemblies, including entrance doors and anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

F. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:

1. No evidence of water penetration through fixed glazing and framing areas when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than.

G. Energy Performance: Certified and labeled by manufacturer for energy performance as follows:

1. Thermal Transmittance (U-factor):

a. Fixed Glazing and Framing Areas: U-factor for the system of not more than 0.45 Btu/sq. ft. x h x deg F as determined according to NFRC 100.

2. Solar Heat Gain Coefficient (SHGC): Fixed glazing and framing areas as a system shall have SHGC of no greater than 0.26 as determined according to NFRC 200.
3. Air Leakage:

a. Fixed Glazing and Framing Areas: Air leakage for the system of not more than 0.06 cfm/sq. ft. at a static-air-pressure differential of 6.24 lbf/sq. ft. when tested according to ASTM E283.
b. Entrance Doors: Air leakage of not more than 1.0 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft..

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

4. Condensation Resistance Factor (CRF):

   a. Fixed Glazing and Framing Areas: CRF for the system of not less than 60 as determined according to AAMA 1503.

H. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.3 STOREFRONT SYSTEMS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. EFCO Corporation.
2. Kawneer North America.
3. Oldcastle Building Envelope. (Basis of Design)
4. Tubelite.

B. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Basis-of-Design Product: Old Castle Building Envelope; Series 3000.
2. Frame Profile: 1-3/4 to 2 inches wide by 4-1/2nches deep.
3. Exterior Framing Construction: Thermally broken.
4. Interior Vestibule Framing Construction: Nonthermal.
5. Glazing System: Retained mechanically with gaskets on four sides.
6. Glazing Plane: Front.
7. Finish: Clear anodic finish.
8. Fabrication Method: Field-fabricated stick system.
9. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
10. Steel Reinforcement: As required by manufacturer.

C. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.

D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

E. Insulated Spandrel Panels: Laminated, metal-faced flat panels with no deviations in plane exceeding 0.8 percent of panel dimension in width or length.

1. Overall Panel Thickness: 1 inch.
2. Exterior Skin: Aluminum.
   a. Thickness: Manufacturer's standard for finish and texture indicated.
   b. Finish: Match framing system.
   c. Texture: Smooth.
   d. Backing Sheet: 1/8-inch- thick tempered hardboard.

3. Interior Skin: Aluminum.
   a. Thickness: Manufacturer's standard for finish and texture indicated.

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

b. Finish: Matching storefront framing.
c. Texture: Smooth.
d. Backing Sheet: 1/8-inch- thick tempered hardboard.

4. Thermal Insulation Core: Manufacturer's standard rigid, closed-cell, polyisocyanurate board.
5. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   a. Flame-Spread Index: 25 or less.
   b. Smoke-Developed Index: 50 or less.

F. Venting Windows: Manufacturer's standard units, complying with AAMA/WDMA/CSA 101/I.S.2/A440, with self-flashing mounting fins, and as follows:

1. Window Type: Casement.
2. Minimum Performance Class: CW.
3. Minimum Performance Grade: Match storefront system.
4. Hardware: Manufacturer's standard; of aluminum, stainless steel, die-cast steel, malleable iron, or bronze; including the following:
   a. Cam handle locking system.
   b. Pole-operated, cam handle locking system, where rail is more than 72 inches above floor.
   c. Steel or bronze operating arms.

5. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
6. Insect Screens: Provide removable insect screen on each operable exterior sash, with screen frame finished to match window unit, complying with SMA 1004 or SMA 1201, and as follows:
   a. Fabric: Manufacturer's standard aluminum wire fabric or glass-fiber mesh fabric.

7. Glazing: Same as adjacent aluminum-framed entrances and storefront glazing.
8. Finish: Match adjacent aluminum-framed entrances and storefront finish.

2.4 ENTRANCE DOOR SYSTEMS

A. Stile-and-Rail Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing or automatic operation.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Cross Aluminum Products, Inc.
   b. EFCO Corporation.
   c. Oldcastle Building Envelope.
   d. Tubelite Inc.
   e. United States Aluminum.
   f. YKK AP America Inc.

2. Door Construction: 1-3/4-inch overall thickness, with minimum 0.125-inch- thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior.
b. Thermal Transmittance (U-factor): Not more than 0.65 Btu/sq. ft. x h x deg F as determined according to NFRC 102.
c. Condensation Resistance: Condensation rating of not less than 46 as determined according to AAMA 1503.

3. Door Design: As indicated.
4. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.

a. Provide nonremovable glazing stops on outside of door.

B. Plank-Type Flush Doors: Vertical interlocking, thermally-broken, aluminum tubes filled with manufacturer's board insulation, 1-3/4-by 4 by 0.125 inches- with 3/16-inch-thick hinge and latch edges, fastened by a minimum of three 3/8-inch- diameter continuous bolts and locking nuts. Provide tubes with vertical fluted texture and standard snap-on extruded aluminum glazing stops and preformed gaskets.

1. Product: Cross Aluminum Products; ThermaPlank FL-400T Series.
2. Thermal Transmittance (U-factor): Unglazed door areas shall have U-factor of not more than 0.34 Btu/sq. ft. x h x deg F as determined according to NFRC 102.
3. Condensation Resistance: Unglazed door areas shall have a condensation resistance rating of no less than 75 as determined according to AAMA 1503.
4. Surface Texture: Smooth.

2.5 ENTRANCE DOOR HARDWARE

A. Entrance Door Hardware: Hardware not specified in this Section is specified in Section 08 7100 "Door Hardware."

B. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.

C. Weather Stripping: Manufacturer's standard replaceable components.

1. Compression Type: Made of ASTM D 2000 molded neoprene or ASTM D 2287 molded PVC.
2. Sliding Type: AAMA 701/702, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

D. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.

E. Thresholds: BHMA A156.21 raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch.

2.6 GLAZING

A. Glazing: Comply with Section 08 8000 "Glazing."

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

2.7 MATERIALS

A. Sheet and Plate: ASTM B 209.

B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.

C. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.

D. Structural Profiles: ASTM B 308/B 308M.

E. Steel Reinforcement:

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.
4. Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.

2.8 ACCESSORIES

A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.

B. Bituminous Paint: Cold-applied asphalt-mastic paint containing no asbestos, formulated for 30-mil thickness per coat.

2.9 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing from exterior.

Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. Door Stops: Screw-applied or snap-in box type with minimum 3/4-inch depth.
2. At interior and exterior doors, provide compression weather stripping at fixed stops.

F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.10 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Seal perimeter and other joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

Set continuous sill members and flashing in full sealant bed, as specified in Section 07 9200 "Joint Sealants," to produce weathertight installation.

STATE OF MICHIGAN
BETHANY C. MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

D. Install components plumb and true in alignment with established lines and grades.

E. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.

F. Install glazing as specified in Section 08 8000 "Glazing."

G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

H. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet.
2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet.
3. Alignment:

a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch wide, limit offset from true alignment to 1/16 inch.
b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch wide, limit offset from true alignment to 1/8 inch.
c. Where surfaces are separated by reveal or protruding element of 1 inch wide or more, limit offset from true alignment to 1/4 inch.

4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Field Quality-Control Testing: Perform the following test on representative areas of aluminum-framed entrances and storefronts.

1. Water-Spray Test: Before installation of interior finishes has begun, areas designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.

C. Aluminum-framed entrances and storefronts will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

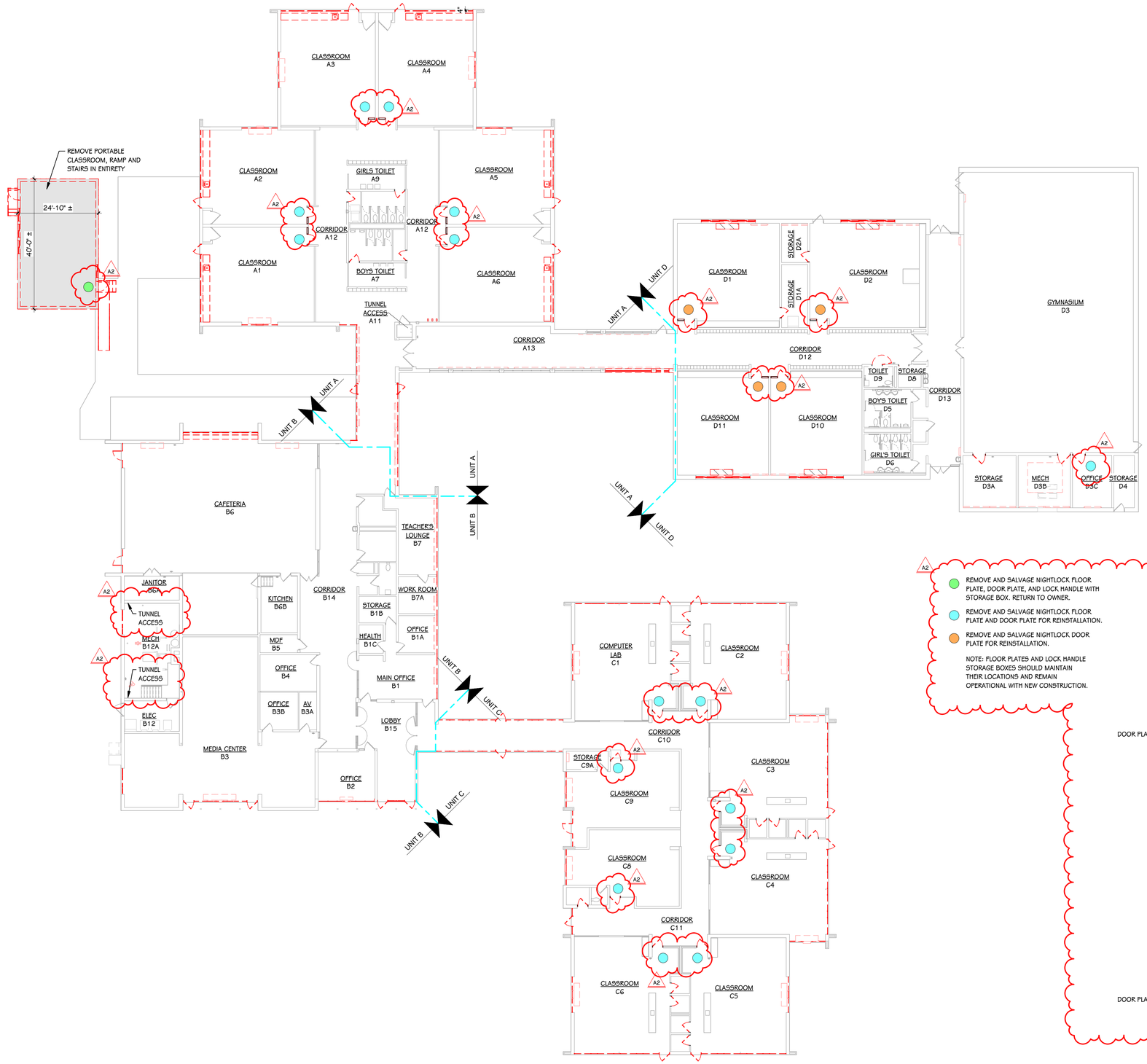
END OF SECTION 08 4113

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

This page intentionally left blank.

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT



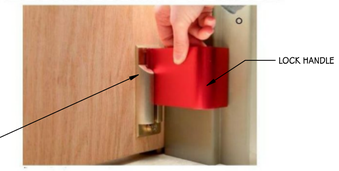
OVERALL FIRST FLOOR DEMOLITION PLAN
1/16" = 1'-0"

A2
- REMOVE AND SALVAGE NIGHTLOCK FLOOR PLATE, DOOR PLATE, AND LOCK HANDLE WITH STORAGE BOX. RETURN TO OWNER.
- REMOVE AND SALVAGE NIGHTLOCK FLOOR PLATE AND DOOR PLATE FOR REINSTALLATION.
- REMOVE AND SALVAGE NIGHTLOCK DOOR PLATE FOR REINSTALLATION.

NOTE: FLOOR PLATES AND LOCK HANDLE STORAGE BOXES SHOULD MAINTAIN THEIR LOCATIONS AND REMAIN OPERATIONAL WITH NEW CONSTRUCTION.

NIGHTLOCK® LOCKDOWN 1

NIGHTLOCK® LOCKDOWN 2



THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02/04/2026

ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE
MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, MI

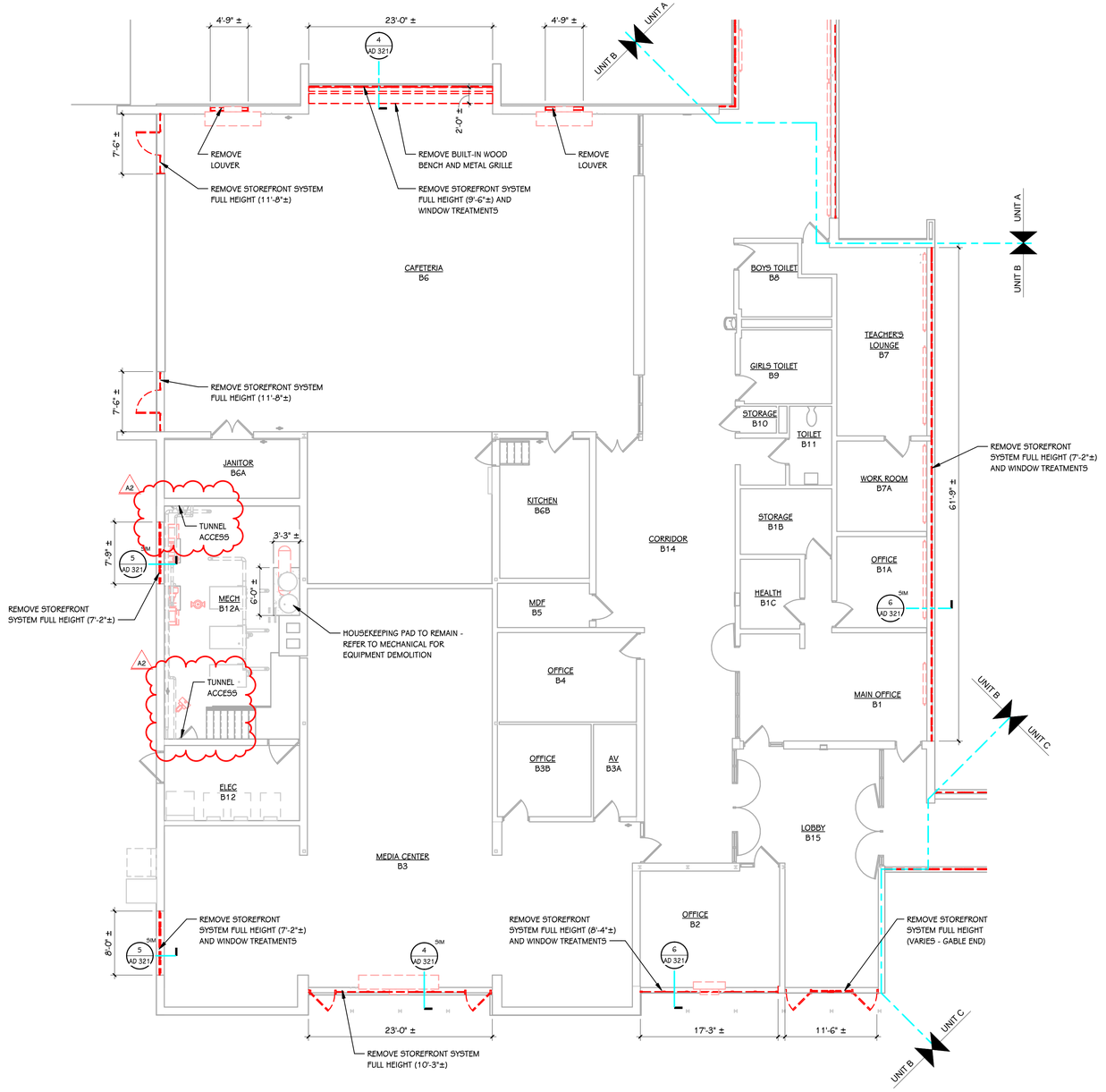
SHEET TITLE
OVERALL FIRST FLOOR DEMOLITION PLAN

DATE
JANUARY 9, 2026

SHEET NUMBER
AD 101
23-638.000

DRAWN BY: XXX 2/4/2026 10:48:35 AM

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

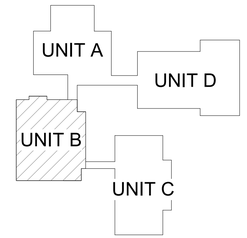


FIRST FLOOR DEMOLITION - UNIT B

1/8" = 1'-0"

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

DRAWN BY: XXX 2/4/2026 10:48:36 AM

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02/04/2026

ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, MI

SHEET TITLE
FIRST FLOOR DEMOLITION PLAN - UNIT B

DATE
JANUARY 9, 2026

SHEET NUMBER
AD 101B
23-638.000

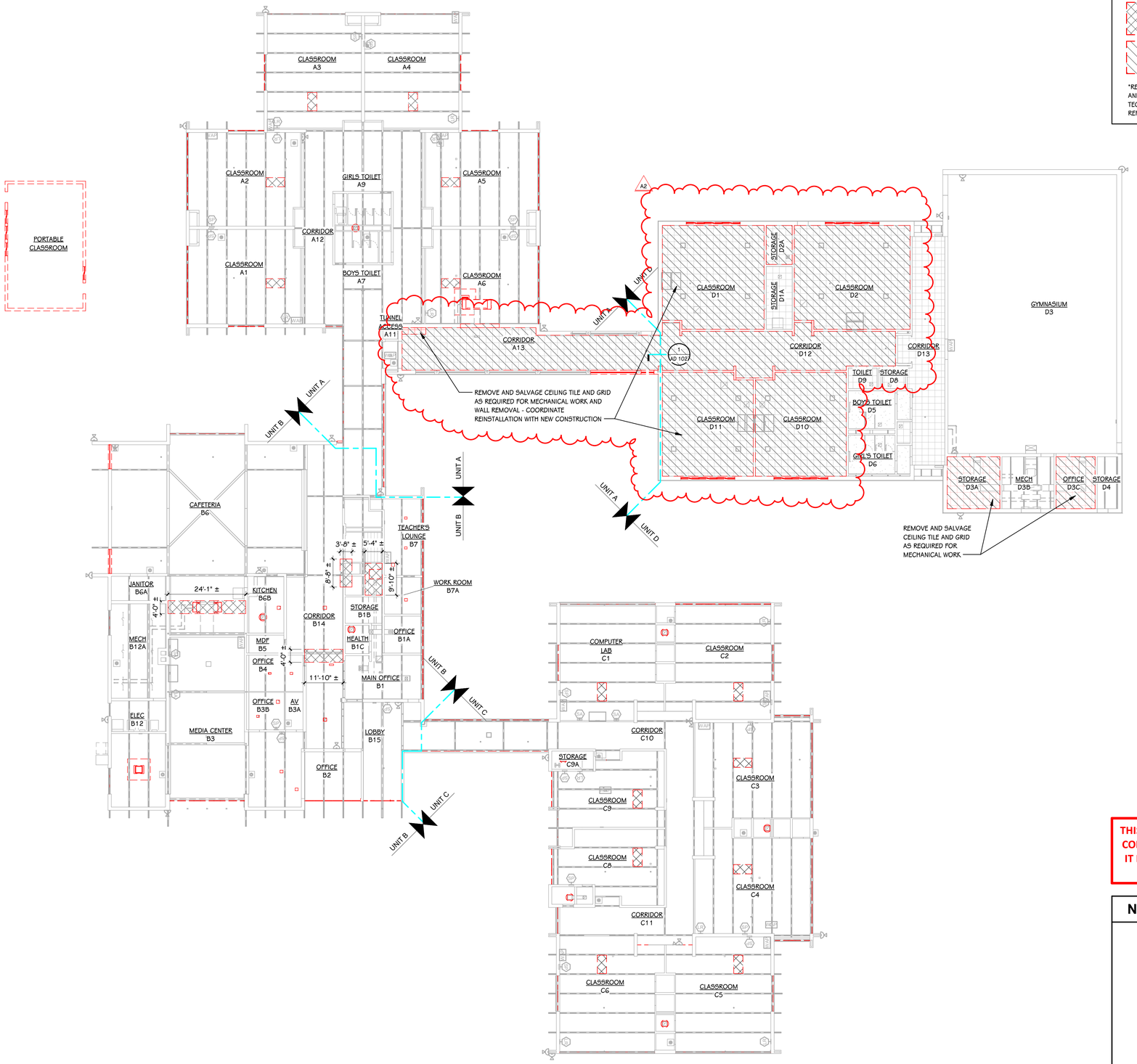
STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

DEMOLITION KEY

REMOVE ROOF CURBS AND PATCH MEMBRANE ROOF AT ROOF EQUIPMENT DEMOLITION. COORDINATE EXTENTS WITH STRUCTURAL AND MECHANICAL DRAWINGS.*

REMOVE AND SALVAGE CEILING TILE AND GRID.

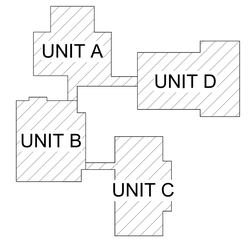
*REMOVE A PORTION OF THE TECTUM DECK BOUND BY THE EXISTING BULB TEES AND EXISTING BEAMS AND REPLACE WITH 1-1/2" x 18 GAUGE METAL DECK. TECTUM TO BE REMOVED OVER THE FULL WIDTH OF THE BEAM TOP FLANGE. REFER TO SHEET S 401 FOR STRUCTURAL DETAILS.



OVERALL REFLECTED CEILING DEMOLITION PLAN
1/16" = 1'-0"

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

DRAWN BY: XXX 2/4/2026 10:53:19 AM

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2	02/04/2026
ISSUED FOR	DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

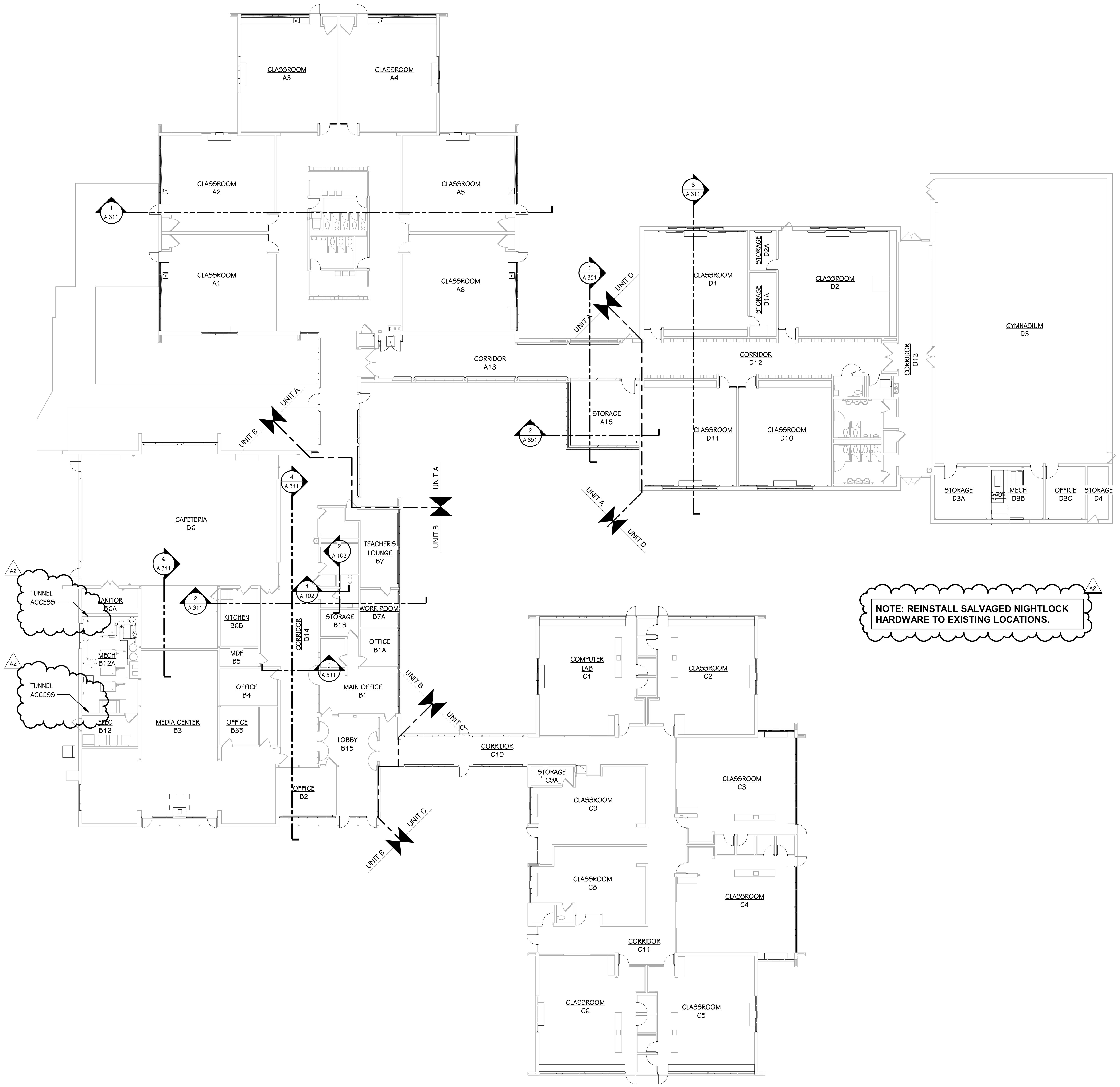
OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, MI

SHEET TITLE
OVERALL FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN

DATE
JANUARY 9, 2026

SHEET NUMBER
AD 201
23-638.000

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT



OVERALL FIRST FLOOR PLAN
1/16" = 1'-0"

DRAWN BY: XXX 2/4/2026 10:52:20 AM

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2	02/04/2026
ISSUED FOR	DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, MI

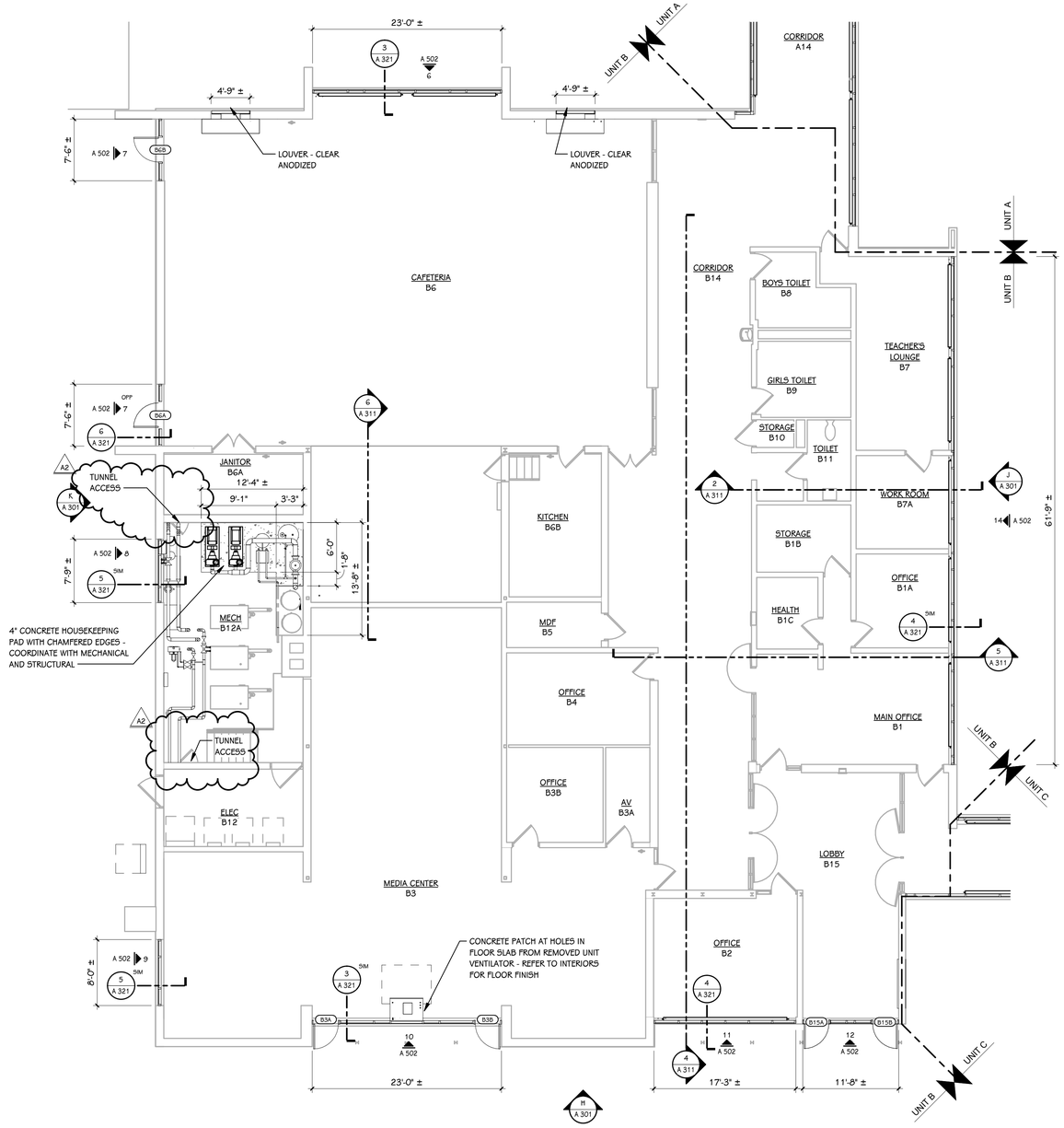
SHEET TITLE
OVERALL FIRST FLOOR PLAN

DATE
JANUARY 9, 2026

SHEET NUMBER
A 101
23-638.000

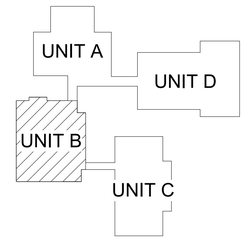
STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

NOTES - ARCHITECTURAL	
1	REFER TO CODE COMPLIANCE PLAN FOR WALL RATING LINES.
2	REFER TO FLOOR FINISH PLANS FOR INTERIOR ELEVATION CALLOUTS.
3	REFER TO SHEET A 500's FOR WALL AND CEILING ACCESS PANEL INFORMATION.



FIRST FLOOR PLAN - UNIT B
1/8" = 1'-0"

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM

© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02/04/2026

ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS

Kalamazoo, MI

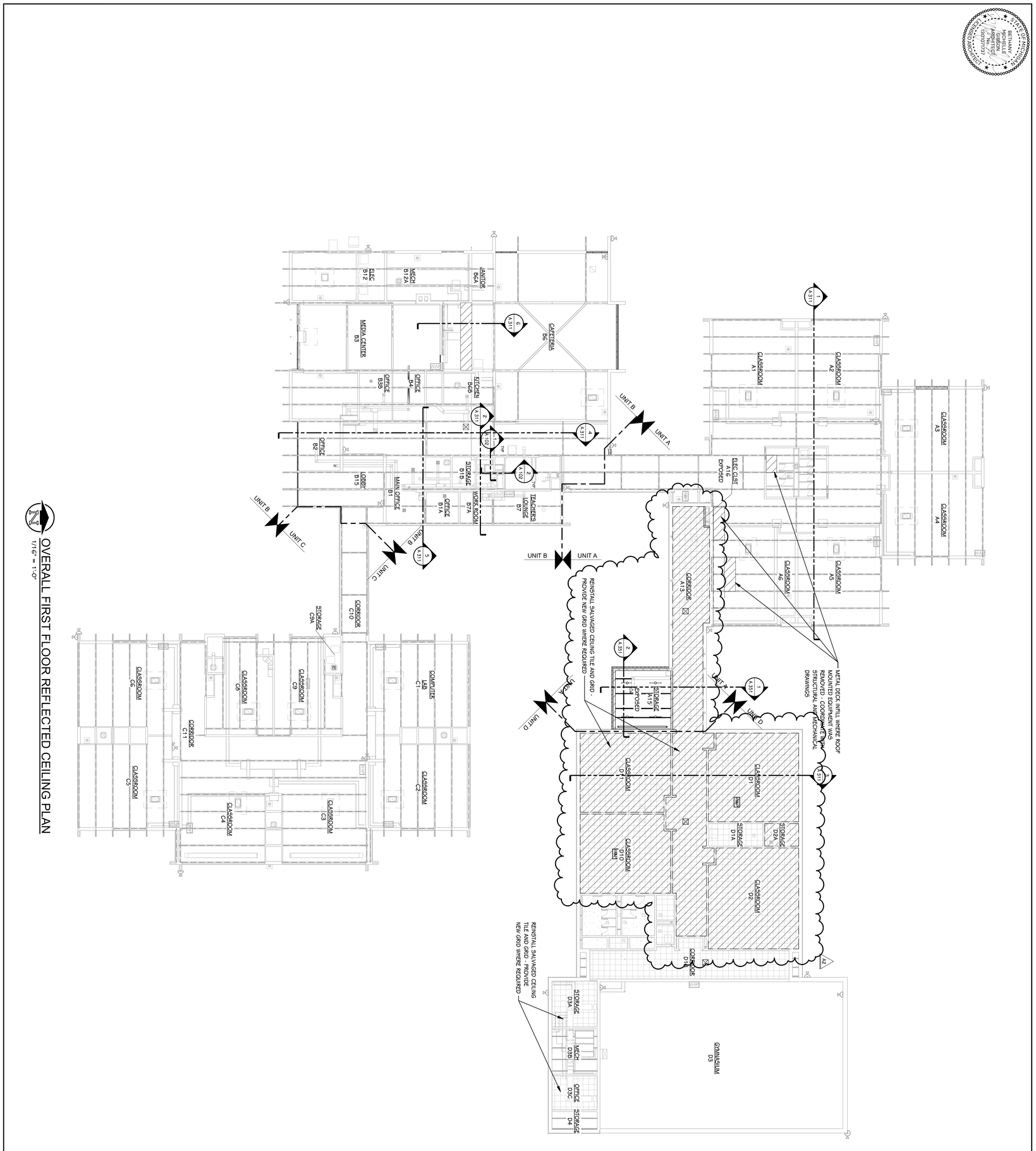
SHEET TITLE
FIRST FLOOR PLAN - UNIT B

DATE
JANUARY 9, 2026

SHEET NUMBER
A 101B
23-638.000

DRAWN BY: XXX 2/4/2026 10:52:21 AM

DRAWN BY: XXX 2/4/2026 10:52:22 AM



SHEET TITLE
OVERALL FIRST FLOOR REFLECTED CEILING PLAN

SHEET NUMBER
A 201
23-638.000

DATE
JANUARY 9, 2026

OWNER
KALAMAZOO PUBLIC SCHOOLS

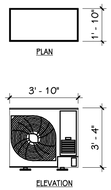
Kalamazoo, MI

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

ISSUED FOR	DATE
ADDENDUM #2	02/04/2026

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
NO. 1301077737
LICENSED ARCHITECT



CONDENSING UNIT

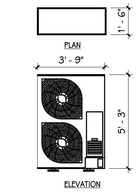
MARK: ACCU-A1, ACCU-A2, ACCU-A3, ACCU-A4, ACCU-A5, ACCU-A6, ACCU-B3, ACCU-C1, ACCU-C2, ACCU-C3, ACCU-C4, ACCU-C5, ACCU-C6, ACCU-C8, ACCU-C9, ACCU-D1, ACCU-D2, ACCU-D10, & ACCU-D11
TYPE: 3 TON NOMINAL, SPLIT COOLING SYSTEM. BASED ON YORK - MODEL YHH936.
WEIGHT: 184 LB
SERVES: UV-A1, UV-A2, UV-A3, UV-A4, UV-A5, UV-A6, UV-C1, UV-C2, UV-C3, UV-C4, UV-C5, UV-C6, UV-D1, UV-D2, UV-D10, & UV-D11
REFRIGERANT: R-454B, 7 LB 7 OZ CHARGE

CAPACITY: 37.6 TMBH, 29.1 SMBH, 95°F DB, 67.5°F WB

FEATURES: MODULATING INVERTER CONDENSING UNIT.

SEER2: 18.0

ELECTRICAL: 208/1/60, 28 MCA, 35 MOCP



CONDENSING UNIT

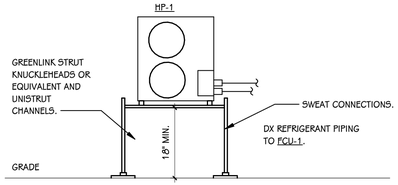
MARK: ACCU-B6A & ACCU-B6B
TYPE: 5 TON NOMINAL (CONFIGURED FOR 4 TON) SPLIT COOLING SYSTEM. BASED ON YORK - MODEL YHH960.
SERVES: UV-B6A & UV-B6B
WEIGHT: 234 LB
REFRIGERANT: R-454B, 7 LB 7 OZ CHARGE

CAPACITY: 41.6 TMBH, 29.2 SMBH, 95°F DB, 67.5°F WB

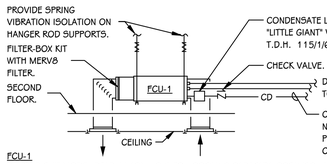
FEATURES: MODULATING INVERTER CONDENSING UNIT.

SEER2: 18.0

ELECTRICAL: 208/1/60, 37 MCA, 45 MOCP



HP-1
"MITSUBISHI" MODEL PUZ-AK42N, 4.0 TON COOLING CAPACITY, 208/1/60, MOCP 40

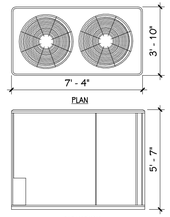


FCU-1
"MITSUBISHI" MODEL PEAD-AA42NL, 3.5 TON COOLING CAPACITY, 208/1/60. 42,000 B.T.U./HR. COOLING CAP., 1000 CFM @ MED. SPEED, 74 WATT FAN.

OPTIONS:
MANUFACTURER PACKAGED CONTROLS. WALL BOX WITH INTEGRAL TEMPERATURE AND HUMIDITY SENSORS. FILTER-BOX KIT WITH (2) SPARE FILTERS.

DUCTED SPLIT SYSTEM UNIT PIPING DETAIL

SCALE: NONE



CONDENSING UNIT

MARK: ACCU-1
TYPE: 21.5 TON NOMINAL, SPLIT COOLING SYSTEM. BASED ON CARRIER - MODEL 38RCD.
SERVES: AHU-1
WEIGHT: 1175 LB
REFRIGERANT: R-32, 25 LB CHARGE

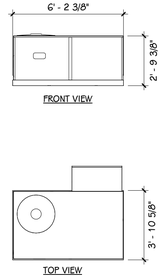
CAPACITY: 264 MBH, 95°F DB, 67.5°F WB

FEATURES: 22 CONTROL STEPS, DIGITAL SCROLL CONDENSING UNIT

IEER: 14.46 AT OPERATING CONDITIONS

ELECTRICAL: 208/3/60, 90.6 MCA, 125 MOCP, NON-FUSED DISCONNECT, SINGLE POINT POWER,

OPTIONS: BACnet IP / MSTP



ROOF TOP UNIT (RTU-2)

AREA SERVED: OFFICES
TYPE: OUTDOOR PACKAGED, SINGLE ZONE VARIABLE VOLUME, 1000 CFM
BASED ON: VALENT VX-12-3J-B-J2
OUTSIDE AIR: 100 - 200 CFM
WEIGHT: 1,200 LBS
UNIT MOUNTING: 18" FULL PERIMETER CURB

FILTERS: 2" PLEATED MERV 13

HEATING COIL (INDIRECT - NATURAL GAS):
CAPACITY: 75 MBH INPUT , 60 MBH OUTPUT
ENTERING / LEAVING AIR TEMP (DB): 57.9 / 114°F
12:1 TURNDOWN

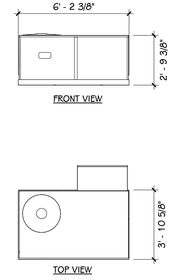
DX COOLING COIL (R-454B):
CAPACITY: 43.8 TMBH, 26.5 SMBH
ENTERING AIR TEMP (DB/WB): 77.9 / 66.9°F
LEAVING AIR TEMP (DB/WB): 52.0 / 51.9°F
3 ROWS, 5.83 FT² FA, 171 FPM
INVERTER SCROLL, 7.6 LB/CIRCUIT
30.3 MBH W/ 81°F LAT HGRH CAPACITY

SUPPLY FANS: 1,600 CFM, (1) FAN, 1.5 HP @ 1.08 BHP, 1.5" ESP, 2116 RPM.
208/3/60, VARIABLE FREQUENCY DRIVE FURNISHED BY TEMPERATURE CONTROLS. WITH FAN INLET AIR MEASURING DEVICE BY MANUFACTURER.

ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH FACTORY FUSED DISCONNECT W/ LOCKING HANDLE. 208/3/60, 26.3 FLA, 30.6 MCA, 45 MOCP, AND DEDICATED 120/1/60 POWER CONNECTION FOR CONVENIENCE RECEPTACLE AND LIGHTS.

OPTIONS:
DUCT DETECTOR INTEGRATION, PACKAGED CONTROLS WITH BACNET INTEGRATION, A2L REFRIGERANT SENSORS WITH CONTROL DEVICE & DISSAPATION SEQUENCE, OUTDOOR AIR FLOW MEASURING DEVICE, MOTORIZED RELIEF AIR DAMPER, AND BPI.

DISCHARGE / INLET SOUND POWER LEVELS (db)								
	63 HZ	125 HZ	250 HZ	500 HZ	1 kHZ	2 kHZ	4 kHZ	8 kHZ
INLET/OUTLET	80.5	75.7	83.9	81.9	69.2	66.4	65.1	64.8
RADIATED	80	74	80	77	76	69	61	57



ROOF TOP UNIT (RTU-1)

AREA SERVED: OFFICES
TYPE: OUTDOOR PACKAGED, SINGLE ZONE VARIABLE VOLUME, 1600 CFM
BASED ON: VALENT - VX-12-5J-C-G2
OUTSIDE AIR: 200 - 300 CFM
WEIGHT: 1,300 LBS
UNIT MOUNTING: 18" FULL PERIMETER CURB

FILTERS: 2" PLEATED MERV 13

HEATING COIL (INDIRECT - NATURAL GAS):
CAPACITY: 100 MBH INPUT , 81 MBH OUTPUT
ENTERING / LEAVING AIR TEMP (DB): 58.8 / 105°F
16:1 TURNDOWN

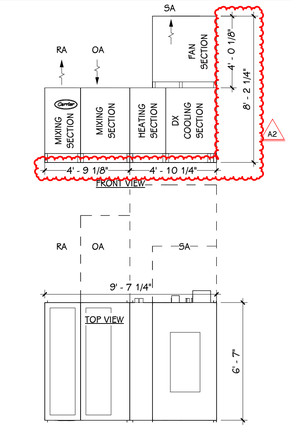
DX COOLING COIL (R-454B):
CAPACITY: 65.9 TMBH, 43.7 SMBH
ENTERING AIR TEMP (DB/WB): 77.7 / 65.4°F
LEAVING AIR TEMP (DB/WB): 52.0 / 51.9°F
4 ROWS, 5.83 FT² FA, 275 FPM
INVERTER SCROLL, 7.8 LB/CIRCUIT
41.5 MBH W/ 76.1°F LAT HGRH CAPACITY

SUPPLY FANS: 1,600 CFM, (1) FAN, 1.5 HP @ 1.08 BHP, 1.5" ESP, 2116 RPM.
208/3/60, VARIABLE FREQUENCY DRIVE FURNISHED BY TEMPERATURE CONTROLS. WITH FAN INLET AIR MEASURING DEVICE BY MANUFACTURER.

ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH FACTORY FUSED DISCONNECT W/ LOCKING HANDLE. 208/3/60, 26.3 FLA, 30.6 MCA, 45 MOCP, AND DEDICATED 120/1/60 POWER CONNECTION FOR CONVENIENCE RECEPTACLE AND LIGHTS.

OPTIONS:
DUCT DETECTOR INTEGRATION, PACKAGED CONTROLS WITH BACNET INTEGRATION, A2L REFRIGERANT SENSORS WITH CONTROL DEVICE & DISSAPATION SEQUENCE, OUTDOOR AIR FLOW MEASURING DEVICE, MOTORIZED RELIEF AIR DAMPER, AND BPI.

DISCHARGE / INLET SOUND POWER LEVELS (db)								
	63 HZ	125 HZ	250 HZ	500 HZ	1 kHZ	2 kHZ	4 kHZ	8 kHZ
INLET/OUTLET	82.5	74.4	84.5	86.4	73.9	70.1	67.4	64.6
RADIATED	80	74	80	77	76	69	61	57



AIR HANDLING UNIT (AHU-1)

AREA SERVED: GYMNASIUM
TYPE: INDOOR MODULAR SPLIT SYSTEM, SINGLE ZONE VARIABLE VOLUME, 7000 CFM
BASED ON: CARRIER 39MN
OUTSIDE AIR: 300-2,000 CFM
WEIGHT: 2,900 LBS
UNIT MOUNTING: 4" HOUSEKEEPING PAD (EXISTING)

FILTERS: 2" PLEATED MERV 8 (PRE-FILTER), 4" PLEATED MERV 13

HEATING COIL:
CAPACITY: 539 TMBH
ENTERING / LEAVING FLUID TEMP: 130 / 110°F
ENTERING / LEAVING AIR TEMP (DB): 47 / 97°F
FLOW RATE / FLUID PRESSURE DROP: 54.5 GPM / 3.6'
2 ROWS, 16.93 FT² FA, 414 FPM FV

DX COOLING COIL (R-32):
CAPACITY: 264.7 TMBH, 208 SMBH
ENTERING AIR TEMP (DB/WB): 80.7 / 65.4°F
LEAVING AIR TEMP (DB/WB): 53.5 / 52.7°F
6 ROWS, 12 FPI MAX, 16.93 FT² FA, 414 FPM

SUPPLY FANS: 7,000 CFM, (1) FAN, 10 HP @ 8.4 BHP, 1.25" ESP, 1800 RPM.
208/3/60, 14 FLA. VARIABLE FREQUENCY DRIVE FURNISHED BY TEMPERATURE CONTROLS. WITH FAN INLET AIR MEASURING DEVICE BY MANUFACTURER.

ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH FACTORY FUSED DISCONNECT W/ LOCKING HANDLE. 208/3/60, 28.6 FLA, 35.7 MCA, 60 MOCP, AND DEDICATED 120/1/60 POWER CONNECTION FOR CONVENIENCE RECEPTACLE AND LIGHTS.

OPTIONS:
PACKAGED CONTROLS WITH BACNET INTEGRATION, A2L REFRIGERANT SENSORS WITH CONTROL DEVICE, AND BPI.

RADIATED SOUND POWER LEVELS (db)								
	63 HZ	125 HZ	250 HZ	500 HZ	1 kHZ	2 kHZ	4 kHZ	8 kHZ
DISCHARGE	87	85	94	90	88	91	84	81
INLET	76	81	90	84	76	75	75	74
RADIATED	75	79	88	82	74	72	72	72

PUMPS — BASED ON BELL & GOSSETT

MARK	MODEL	FLOW RATE (GPM)	HEAD (FT)	PEIcl	MOTOR DATA					SYSTEM	LOCATION	REMARKS
					HP	BHP	RPM	VOLTAGE	PHASE			
CP-1	ECOCIRC XL 65-130	55	25	-	1	0.664	2415	208	3	(AHU-1)	MECH D3B	
P-1	e-1510 2BD	175	75	0.85	7.5	4.27	1800	208	3	HEATING HOT WATER	MECH B12A	1, 2
P-2	e-1510 2BD	175	75	0.85	7.5	4.27	1800	208	3	HEATING HOT WATER	MECH B12A	1, 2
P-3	PL-55	32	27	-	0.2	0.15	3250	120	1	CARTRIDGE FILTER PUMP	MECH B 12A	

NOTES:
1. VFD PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR.
2. P-1 & P-2 SHALL OPERATE IN PARALLEL AT 350 GPM AT 75' HD.

FINNED TUBE - WATER — BASED ON RITTLING

MARK	MODEL	HEATING ELEMENT (1)					COVER			REMARKS
		SIZE	ROWS	LENGTH (2)	CAPACITY (BTUH/FT)	FLOW (GPM)	TYPE	HEIGHT	PANEL SURFACE	MOUNT HEIGHT	
FT-1	FT	0.75C-3.25x3.25	2	5' - 0"	690	0.7	WALL-MOUNTED, FLAT TOP	1' - 8"	STEEL	4"	
FT-2	FT	0.75C-3.25x3.25	2	9' - 0"	690	1.2	WALL-MOUNTED, FLAT TOP	1' - 8"	STEEL	4"	
FT-3	FT	0.75C-3.25x3.25	2	10' - 0"	690	1.4	WALL-MOUNTED, FLAT TOP	1' - 8"	STEEL	4"	
FT-4	FT	0.75C-3.25x3.25	2	15' - 0"	690	2.1	WALL-MOUNTED, FLAT TOP	1' - 8"	STEEL	4"	

NOTES:
1. BASED ON 130°F EWT, 110°F LWT, AND 60° F EAT.
2. VERIFY ALL LENGTHS IN FIELD.

AIR & DIRT SEPARATORS — BASED ON BELL & GOSSETT

MARK	MODEL	TYPE	DIAMETER	HEIGHT	WEIGHT (LBS)	FLOW (GPM)	PRESSURE DROP (FT)	SYSTEM SERVED	FLUID TYPE	LOCATION	REMARKS
AS-1	CRS-5F MAG	COALESCING	16"	40"	362	320	1.44	HEATING HOT WATER	WATER	BOILER ROOM	1, 2

NOTES:
1. MANUFACTURER TO PROVIDE REMOVABLE HEAD.
2. MANUFACTURER TO PROVIDE MAGNETIC INSERT.

OUTDOOR AIR INTAKE / RELIEF HOODS — BASED ON GREENHECK

MARK	MODEL	THROAT SIZE	HOOD SIZE	CURB HEIGHT	AIR FLOW (CFM)	MAX APD (IN WC)	CONTROL DAMPER	REMARKS
IH-1	FGI	8"x8"	14"x14"	2' - 0"	80	0.05	No	
IH-2	FGI	14"x30"	28"x51"	1' - 6"	1,000	0.05	No	
RH-1	FGR	14"x30"	28"x51"	2' - 0"	1,250	0.05	No	
RH-2	FGR	16"x30"	28"x51"	2' - 0"	1,500	0.05	No	

GRILLES, REGISTERS, & DIFFUSERS — BASED ON PRICE

MARK	PANEL SIZE	FACE SIZE	NECK SIZE	MODEL	CFM RANGE	VCD	THROW	MATERIAL	FINISH	INSTALLATION	REMARKS
SA-1	24"x24"	24"x24"	8" Ø	A5CDA	175-315	NO	3-4-8	ALUMINUM	WHITE	LAY-IN	
SA-3	-	12"x12"	10"x10"	620	0-500	YES	5-8-15	ALUMINUM	WHITE	SURFACE	
SA-4	-	20"x8"	18"x6"	620	150-600	YES	16-23-31	ALUMINUM	WHITE	SURFACE	
SA-5	-	20"x6"	18"x4"	5DGE	200-350	AIR SCOOP	7-11-16	ALUMINUM	CLEAR ANONODIZED	DUCT MOUNTED	
SA-6	24x24	-	12" Ø	A5CDA	300-630	NO	5-8-13	ALUMINUM	WHITE	DUCT MOUNTED	
RA-1	-	12"x10"	10"x8"	80	0-400	YES	-	ALUMINUM	WHITE	SURFACE	
RA-2	-	12"x12"	12"x12"	80	0-850	YES	-	ALUMINUM	WHITE	SURFACE	
RA-3	-	20"x20"	20"x20"	80	0-2200	YES	-	ALUMINUM	WHITE	SURFACE	
RA-4	24"x24"	24"x24"	20"x20"	80	0-3000	NO	-	ALUMINUM	WHITE	LAY-IN	
RA-5	-	34"x14"	32"x12"	610Z	700-1400	NO	-	ALUMINUM	WHITE	SURFACE	
EA-1	12"x12"	-	12"x12"	80	0-500	NO	-	ALUMINUM	WHITE	SURFACE	
EA-2	24"x24"	24"x24"	22"x22"	80	0-500	NO	-	ALUMINUM	WHITE	SURFACE	
TA-1	-	160"x6"	-	LBPH 15A	-	NO	-	ALUMINUM	CLEAR ANONODIZED	SURFACE	
TA-2	-	246"x6"	-	LBPH 15A	-	NO	-	ALUMINUM	CLEAR ANONODIZED	SURFACE	
TA-3	-	312"x6"	-	LBPH 15A	-	NO	-	ALUMINUM	CLEAR ANONODIZED	SURFACE	

CABINET HEATERS - WATER — BASED ON RITTLING

MARK	MODEL	TYPE	AIRFLOW (CFM)	HEATING COIL					MOTOR DATA				REMARKS
				CAPACITY (MBH)	ROWS	FLOW (GPM)	WPD (FT)	EWT (°F)	LWT (°F)	HP	RPM	VOLTAGE	PHASE	
CH-A12	RCW-420-03	WALL SURFACE MOUNTED	300	15.6	4	1.5	1.4	130 °F	110 °F	0.25	1025	120	1	
CH-B6	RCW-420-04	WALL SURFACE MOUNTED	420	19.9	4	1.5	1.5	130 °F	110 °F	0.25	1025	120	1	
CH-B15	RCW-420-08	WALL SURFACE MOUNTED	810	29.2	4	2.0	1.3	130 °F	110 °F	0.25	1025	120	1	
CH-C11	RCW-420-04	WALL SURFACE MOUNTED	420	21.4	4	2.0	2.5	130 °F	110 °F	0.25	1025	120	1	
CH-C122	RCW-420-02	WALL FULLY RECESSED	220	10.5	2	1.5	0.5	130 °F	110 °F	0.25	1025	120	1	
CH-D6	RCW-420-02	WALL FULLY RECESSED	220	12.4	4	2.0	2.1	130 °F	110 °F	0.25	1025	120	1	
CH-D13A	RCW-420-06	WALL SURFACE MOUNTED	620	28.3	4	2.0	1.3	130 °F	110 °F	0.25	1025	120	1	
CH-D13B	RCW-420-06	WALL SEMI-RECESSED	620	28.3	4	2.0	1.3	130 °F	110 °F	0.25	1025	120	1	
CH-D113A	RCW-420-04	WALL SURFACE MOUNTED	420	21.4	4	2.0	1.3	130 °F	110 °F	0.25	1025	120	1	

NOTES:
1. BASED ON 130°F EWT, 110°F LWT, 60°F EAT.

UNIT HEATER - HOT WATER — BASED ON RITTLING

MARK	MODEL	TYPE	CFM	MBH	GPM	WPD	HP	VOLTAGE	REMARKS
UH-1	RH-108	HORIZONTAL	1,240	27.5	2.8	0.1	1/8	120/1	1

NOTES:
1. BASED ON 130°F EWT, 110°F LWT, 60°F EAT.

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ISSUED FOR — DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

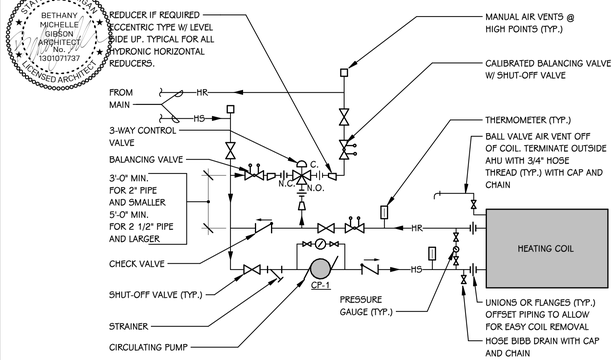
OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, MI

SHEET TITLE
MECHANICAL SCHEDULES AND DETAILS

DATE
JANUARY 9, 2026

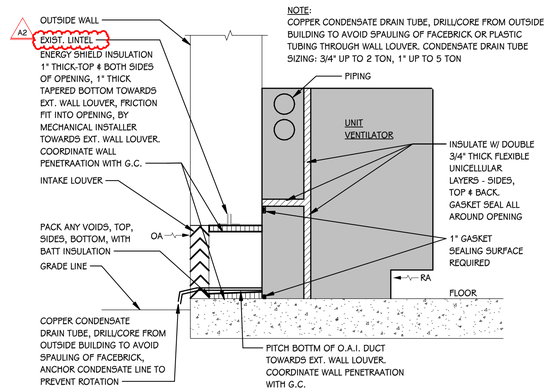
SHEET NUMBER
M 501
23-638.000

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT



AHU HEATING COIL PIPING DETAIL - 3-WAY VALVE

SCALE: NONE



UNIT VENTILATOR DETAIL - FLOOR MOUNTED

SCALE: NONE

UNIT VENTILATOR - HOT WATER

BASED ON AIREDALE

MARK	MODEL	TYPE	S.A. FAN				HOT WATER COIL (1)							DX COIL				ASSOCIATED ACCU	REMARKS
			S.A (CFM)	O.A. (CFM)	HP	VOLTAGE	MBH	EWT/LWT (°F)	GPM	EAT (°F)	LAT (°F)	WPD (FT. WG.)	ROWS	TBMH	SMBH	EAT (°F)	LAT (°F)		
UV-A1	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-A1	2, 3, 5
UV-A2	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-A2	2, 3, 4
UV-A3	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-A3	2, 3, 4
UV-A4	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-A4	2, 3, 4
UV-A5	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-A5	2, 3, 4
UV-A6	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-A6	2, 3, 4
UV-B3	ZFV1000	CEILING MOUNT	1000	275	1/2	208/1/60	51	130/110	5.1	48	95	20.8	2	33.9	18.7	79/65	55/54	ACCU-B3	4
UV-B6A	ZFV1500	FLOOR MOUNT	1500	400	1/2	208/1/60	75.4	130/110	7.5	48.7	95	20.8	2	50.3	27.9	79/65	55/54	ACCU-B6A	2, 3, 4
UV-B6B	ZFV1500	FLOOR MOUNT	1500	400	1/2	208/1/60	75.4	130/110	7.5	48.7	95	20.8	2	50.3	27.9	79/65	55/54	ACCU-B6B	2, 3, 4
UV-C1	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-C1	2, 3, 4
UV-C2	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-C2	2, 3, 4
UV-C3	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-C3	2, 3, 4
UV-C4	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-C4	2, 3, 4
UV-C5	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-C5	2, 3, 4
UV-C6	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-C6	2, 3, 4
UV-C8	ZFV1000	FLOOR MOUNT	1000	275	1/2	208/1/60	51	130/110	5.1	48	95	20.8	2	33.9	18.7	79/65	55/54	ACCU-C8	2, 3, 4
UV-C9	ZFV1000	FLOOR MOUNT	1000	275	1/2	208/1/60	51	130/110	5.1	48	95	20.8	2	33.9	18.7	79/65	55/54	ACCU-C9	2, 3, 5
UV-D1	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-D1	2, 3, 4
UV-D2	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-D2	2, 3, 4
UV-D10	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-D10	2, 3, 4
UV-D11	ZFV1250	FLOOR MOUNT	1250	320	1/2	208/1/60	61.7	130/110	6.2	49.5	95	20.8	2	41.5	23.0	79/65	55/54	ACCU-D11	2, 3, 4
VUV-B3	CMD 48	VERTICAL	1500	400	3/4	208/1/60	65.6	130/110	6	48.9	95	1.2	1	50.4	38.0	78.4/64.5	55/54	-	4

NOTES:
1. BASED ON 130°F EWT AND 110°F LWT.
2. PROVIDE 6" FALSEBACK.
3. PROVIDE SLOTTED KICKPLATE.
4. PROVIDE 2-WAY CONTROL VALVE.
5. PROVIDE 3-WAY CONTROL VALVE.

EXPANSION TANKS

BASED ON BELL & GOSSETT

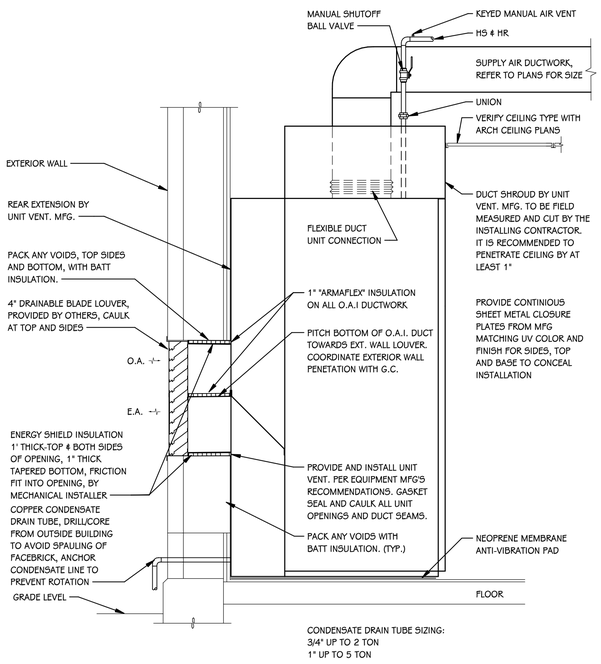
MARK	MODEL	TYPE	TANK VOL. (GAL)	ACCEPTANCE VOL. (GAL)	WEIGHT (LBS)	DIAMETER	HEIGHT	SYSTEM SERVED	APPROX SYSTEM VOLUME (GAL)	FLUID TYPE	FILL TEMP	MAX TEMP	FILL PRESSURE (PSI)	MAX PRESSURE (PSI)	LOCATION	REMARKS
ET-1	B-500	BLADDER	132	132	1435	30"	57"	HEATING HOT WATER	1800	100% WATER	40	180	60	115	MECH B12A	

EXHAUST FANS

BASED ON GREENHECK

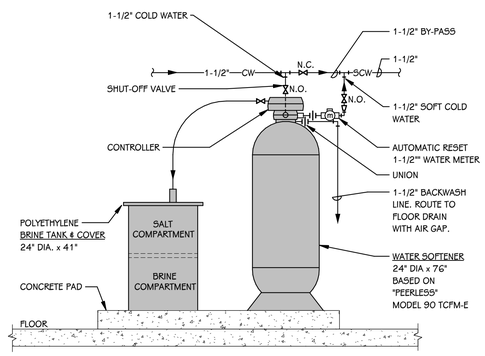
MARK	MODEL	TYPE	AIR FLOW (CFM)	ESP (IN WC)	SONES	CURB HEIGHT	MOTOR DATA						REMARKS
							EC MOTOR	NOMINAL HP	BRAKE HP	RPM	VOLTAGE	PHASE	
EF-A1	G-120-VG	DOWNBLAST	750	0.50	6.7	2' - 0"	Yes	0.25	0.1	1032	120	1	1, 2
EF-A2	G-070-VG	DOWNBLAST	200	0.30	3.8	2' - 0"	Yes	0.07	0.02	1466	120	1	1, 2
EF-B1	G-060-VG	DOWNBLAST	100	0.30	3.8	2' - 0"	Yes	0.07	0.02	1595	120	1	1, 2
EF-B2	G-070-VG	DOWNBLAST	150	0.30	3.2	2' - 0"	Yes	0.07	0.02	1374	120	1	1, 2
EF-B3	G-070-VG	DOWNBLAST	250	0.30	4.7	2' - 0"	Yes	0.03	0.07	1376	120	1	1, 2
EF-C1	G-060-VG	DOWNBLAST	150	0.40	6.1	2' - 0"	Yes	0.1	0.03	1317	120	1	1, 2
EF-C2	G-060-VG	DOWNBLAST	150	0.40	6.1	2' - 0"	Yes	0.1	0.03	1317	120	1	1, 2
EF-C3	G-060-VG	DOWNBLAST	150	0.40	6.7	2' - 0"	Yes	0.1	0.03	1317	120	1	1, 2
EF-C4	G-070-VG	DOWNBLAST	200	0.40	4.9	2' - 0"	Yes	0.07	0.03	1624	120	1	1, 2
EF-C5	G-060-VG	DOWNBLAST	100	0.30	3.8	2' - 0"	Yes	0.07	0.02	1594	120	1	1, 2
EF-D1	G-060-VG	DOWNBLAST	75	0.30	3.3	2' - 0"	Yes	0.07	0.01	1503	120	1	1, 2
EF-D2	G-130-VG	DOWNBLAST	1100	0.50	8.2	2' - 0"	Yes	0.25	0.15	1097	120	1	1, 2

NOTES:
1. INTERLOCK EXHAUST FAN WITH ASSOCIATED DAMPER.
2. PROVIDE WITH VARI-GREEN MOTOR.



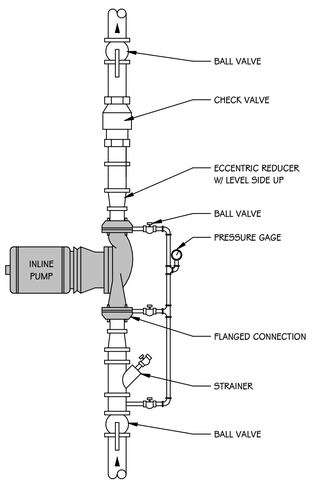
UNIT VENTILATOR DETAIL - VERTICAL

SCALE: NONE



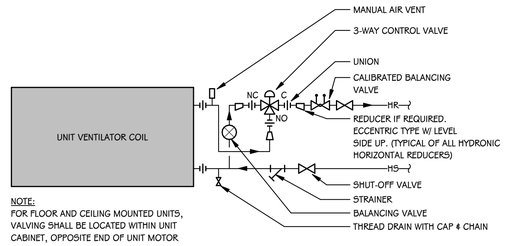
WATER SOFTENER DETAIL - SIMPLEX

SCALE: NONE



PUMP - INLINE PIPING DETAIL

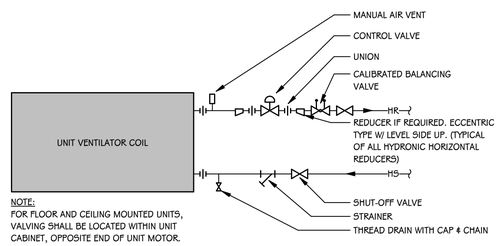
SCALE: NONE



NOTE:
FOR FLOOR AND CEILING MOUNTED UNITS, VALVING SHALL BE LOCATED WITHIN UNIT CABINET, OPPOSITE END OF UNIT MOTOR

UNIT VENTILATOR PIPING DETAIL (3-WAY)

SCALE: NONE



NOTE:
FOR FLOOR AND CEILING MOUNTED UNITS, VALVING SHALL BE LOCATED WITHIN UNIT CABINET, OPPOSITE END OF UNIT MOTOR.

UNIT VENTILATOR PIPING DETAIL (2-WAY)

SCALE: NONE

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2	02/04/2026
ISSUED FOR	DATE

PROJECT TITLE
NORTHGLADE
MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, MI

SHEET TITLE
MECHANICAL SCHEDULES AND DETAILS

DATE
JANUARY 9, 2026

SHEET NUMBER
M 502
23-638.000

A2

TECHNOLOGY PROVISION MATRIX

DEVICE TYPE	OWNER PROVIDED	OWNER INSTALLED	TECH CONTRACTOR PROVIDED	TECH CONTRACTOR INSTALLED	CM / EC PROVIDED	COMMENTS
DEMOLITION OF EXISTING TECHNOLOGY DEVICES, MOUNTING HARDWARE, AND CABLING			X	X		
GROUNDING BUSBARS IN TELECOM ROOMS			X	X		
PATHWAY FOR COMMUNICATIONS & SECURITY (CONDUIT, SLEEVES, ROUGH-IN BOXES, ETC.)					X	
CABLE TRAY (OUTSIDE TELECOM ROOMS)			X	X		EXISTING
CABLE TRAY (INSIDE TELECOME ROOMS)			X	X		EXISTING
UPS DEVICES			X	X		EXISTING
PLYWOOD BACKERBOARD (INSIDE TELECOM ROOMS)			X	X		EXISTING
NETWORK RACKS			X	X		EXISTING
HORIZONTAL DATA CABLING, TERMINATIONS			X	X		
NETWORK EQUIPMENT (SWITCHES, PATCH PANELS & WIRELESS ACCESS POINTS)	X	X				
AV EQUIPMENT, MOUNTING HARDWARE, FACEPLATES, & CABLING			X	X		EXISTING
SECURITY INTERCOM & CABLING			X	X		EXISTING
CLOCKS & CABLING			X	X		
ACCESS CONTROL SYSTEM (ENCLOSURES, READERS, SENSORS, POWER SUPPLIES, CABLING, ETC.)			X	X		EXISTING
SECURITY CAMERAS & CABLING			X	X		EXISTING

STRUCTURED CABLING — MOUNTING HEIGHTS

	DATA/VOICE OUTLET - 4 SQ BOX, 5G COVER, 1" CONDUIT STUB	16"
	DATA/VOICE OUTLET - 4 SQ BOX, 5G COVER, SURFACE #WM500	16"
	DATA/VOICE OUTLET - 4 SQ BOX, 5G COVER, 1" CONDUIT STUB 4" ABOVE BACKSPLASH	
	SECURITY CONTROLS PATHWAY - 4 SQ BOX, 5G COVER WITH BRUSH PLATE, 1" CONDUIT STUB	16"
WAP	WIRELESS ACCESS POINT (REFER TO DETAILS)	
GRB	GROUNDING BUS BAR WITH DEDICATED GROUND, (REFER TO DETAILS)	
	CABLE TRAY, (12"x4" UNLESS NOTED OTHERWISE)	
	CLOCK (REFER TO DETAILS)	REFER TO KEYED NOTES, OTHERWISE, 90" TO CENTER
MCP	MASTER CLOCK PANEL	
PAG	PAGING SYSTEM HEAD END	
TC#	NETWORK COMMUNICATION RACK - FLOOR STANDING 3' CLEAR ON BOTH SIDES	
	4'X8'X3/4" FIRE-RATED PLYWOOD, A/C FINISH, MOUNT VERTICALLY	12"
	CONDUIT SLEEVE IN ACCESSIBLE CEILING (2" CONDUIT UNLESS NOTED OTHERWISE, ONLY SHOWN ON PLANS INDICATING SPECIFIC CONDITIONS, REFER TO GENERAL NOTES FOR SLEEVES THAT ARE REQUIRED INTO ALL SPACES)	

AUDIO/VISUAL

TV n	TV WALL RECESSED "FSR" BACKBOX, (REFER TO DETAILS)	
PRJ n	PROJECTOR, (REFER TO DETAILS)	
AV n	A/V WALL STATION BOXES, USE FSR MUDRING MUD-2G-** FOR 2-GANG OPENINGS (REFER TO DETAILS)	
TS n	TECHNOLOGY OR TEACHER'S STATION BOXES, USE FSR MUDRING MUD-2G-** FOR 2-GANG OPENINGS(REFER TO DETAILS)	
MIC	MICROPHONE JACK	16"
CB	CEILING BOX, (REFER TO DETAILS)	
BT	BLUETOOTH DEVICE - DEEP 4 SQ BOX, 1-G OPENING, (REFER TO DETAILS)	40"
ANT	ANTENNA, (REFER TO DETAILS)	
SCR	PROJECTOR SCREEN, (REFER TO DETAILS)	
SW	PAGING SPEAKER CEILING - MOUNTED	
HSP	PAGING SPEAKER WALL - MOUNTED	CENTER WITH NEARBY CLOCK HEIGHT. IF NO CLOCK PRESENT, REFER TO DRAWINGS.
SW	AV SPEAKER CEILING - MOUNTED	
HSW	AV SPEAKER WALL - MOUNTED	
VC	VOLUME CONTROL	40"
CL	CALL BUTTON	40"

SECURITY SYMBOLS

	SECURITY CAMERA - WALL	
	SECURITY CAMERA - CEILING	
SCP	SECURITY CABLING PATHWAY, 4 SQ, 5G BRUSH PLATE, 1" CONDUIT STUB	16"
ACP#	ACCESS CONTROL PANEL (REFER TO DETAILS)	
RB	RELEASE BUTTON - "#" DENOTES QUANTITY AT LOCATION	
IM	INTERCOM MASTER STATION	
LD	LOCKDOWN BUTTON	
DA	DURESS ALARM PUSH BUTTON - UNDER DESK	
CR	CARD READER - 4 SQ BOX, 5G COVER, 3/4" CONDUIT STUB	40"
CR M	CARD READER, MULLION MOUNT, 3/4" CONDUIT STUB	40"
LS	LOCKDOWN STROBE (REFER TO DETAILS)	
KP	KEY PAD - 4 SQ BOX, 5G COVER, 3/4" CONDUIT STUB	40"
IC	INTERCOM - 4 SQ BOX, 5G COVER, 3/4" CONDUIT STUB	40"
#n	ACCESS CONTROL DETAIL INDICATOR: REFER TO ACCESS CONTROL DETAILS AND SCHEDULE	

NOTES:

MOUNT DEVICES AT HEIGHTS INDICATED UNLESS INDICATED OTHERWISE ON PLANS. HEIGHTS ARE TO BOTTOM OF DEVICE.

GENERAL NOTES - AUDIO SYSTEM

1 AUDIO SYSTEM SHALL BE FREE OF NOISE, RATTLE, HUM, BUZZ, OR ANY OTHER AUDIO DISTORTIONS

2 SECURE CABLES UTILIZING VELCRO STRAPS. WIRE "ZIP TIES" SHALL NOT BE USED

3 ROUTE ALL CABLES IN A MANNER THAT WILL ENSURE SIGNAL INTEGRITY AND WILL NOT INTRODUCE CROSSTALK

4 PROVIDE A SERVICE LOOP FOR RACKS AND EQUIPMENT SUITABLE TO EASILY PLUG AND UNPLUG EQUIPMENT FOR TROUBLESHOOTING OR REPLACEMENT

5 NEATLY DRESS ALL CABLING INSTALLED INSIDE AND OUTSIDE OF RACKS IN A SUITABLE HARNESS TO KEEP CABLES CLEAN, NEAT, AND TIDY

6 COMMISSION AUDIO SYSTEM USING AUDIO MEASUREMENT MICROPHONE AND SOFTWARE (SMAART OR EASERA)

7 ADJUST EQ AND CROSSOVER SETTINGS IN AMPLIFIER AND/OR DSP TO PROVIDE FLAT FREQUENCE RESPONSE, FULL RANGE AUDIO WITH PROTECTIVE LIMITING

8 USE SPEECH, HIGH QUALITY REFERENCE AUDIO, AND SINE WAVE SWEEPS TO TEST THE SYSTEM - CORRECT ANY ABNORMALITIES

9 VERIFY PROPER FUNCTION OF ALL INSTALLED EQUIPMENT (NEW AND EXISTING)

10 TURN OVER EXISTING UNUSED EQUIPMENT TO OWNER - NEATLY ORGANIZED

11 COORDINATE WITH OWNER FOR LABELING OF EQUIPMENT AND AUDIO CONSOLE CHANNELS AND BUSSES AS WELL AS CONSOLE CONFIGURATION

12 REMOTE MOUNT ALL ANTENNAS AS REQUIRED FOR MAXIMUM PERFORMANCE

13 CONFIGURE DELAYS ON ANY SPEAKERS THAT ARE STAGGERED IN A LISTENING PLANE TO TIME-ALIGN AUDIO

14 CONNECT COMPONENTS TO POWER SEQUENCER IN SUCH A WAY AS TO MITIGATE POPPING AND SYSTEM DAMAGE DURING SYSTEM POWER UP AND POWER DOWN

GENERAL NOTES - PAGING AND CLOCK

1 FOR CLOCKS REQUIRING A MANUFACTURER-SPECIFIC IN-WALL ROUGH-IN BOX, THE CLOCK CONTRACTOR SHALL PROVIDE THE ROUGH-IN BOX TO ELECTRICIAN FOR WALL INSTALLATION. THE CLOCK CONTRACTOR AND ELECTRICIAN SHALL COORDINATE AHEAD OF SCHEDULED WALL INSTALLATIONS. COORDINATE WITH CONSTRUCTION MANAGER.

2 PAGING AND CLOCK CONTROLLERS SHALL BE PROPERLY CONFIGURED FOR TIME SYNCHRONIZATION WITH OWNER'S NETWORK TIME PROTOCOL (NTP) SOURCE. COORDINATE NTP ADDRESS WITH OWNER.

3 PAGING SPEAKER CABLING SHALL BE SIZED APPROPRIATELY FOR CABLE LENGTH AND POWER LOAD OF A GIVEN CIRCUIT.

4 FOR WIRELESS CLOCK SYSTEMS THAT REQUIRE FCC LICENSURE, THE CLOCK INTEGRATOR SHALL COORDINATE ANY REQUIRED LICENSE APPLICATION FORMS THAT ARE REQUIRED TO BE COMPLETED BY THE OWNER.

5 THE CLOCK INTEGRATOR SHALL BE RESPONSIBLE FOR REVIEW OF THE PROJECT ARCHITECTURAL ELEVATIONS AND ADHERE TO CLOCK PLACEMENT/ALIGNMENT GUIDELINES. ANY PLACEMENT CLARIFICATION REQUESTS SHALL BE MADE BY RFI.

6 FOR INTEGRATION OF NEW PAGING HEADEND HARDWARE TO PRE-EXISTING PAGING CIRCUITS, THE PAGING INTEGRATOR SHALL PERFORM A PRE-INSTALLATION SPEAKER TEST OF ALL EXISTING SPEAKERS. ANY FAULTY EXISTING SPEAKERS SHALL BE NOTED AND COMMUNICATED TO THE CM/ARCHITECT PRIOR TO THE INSTALLATION OF NEW EQUIPMENT.

7 THE PAGING SYSTEM INTEGRATOR SHALL PROVIDE INTERCONNECTION CABLING TO THE PRIMARY FIRE ALARM PANEL TO ALLOW THE FIRE ALARM SYSTEM TO OVERRIDE PAGING. CONNECTION AT THE FIRE PANEL SHALL BE BY THE FIRE ALARM INTEGRATOR. COORDINATE WITH OTHER TRADES.

8 THE PAGING SYSTEM RISER DETAIL IS INTENDED TO BE DIAGRAMMATICAL FOR THE PURPOSE OF UNDERSTANDING THE BASIC SYSTEM ARCHITECTURE. THE PAGING INTEGRATOR SHALL PROVIDE ALL COMPONENTS, CABLES AND ADAPTERS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM, REGARDLESS IF SHOWN ON THE DIAGRAM.

GENERAL NOTES - TECHNOLOGY

1 TECHNOLOGY CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR NEW WORK OR WHERE DEVICES ARE REMOVED AND NOT REPLACED.

2 TECHNOLOGY CONTRACTOR SHALL COORDINATE WITH G SERIES SHEETS DEVICE COORDINATION DETAIL. DEVICES ARE TO ALIGN VERTICALLY AND HORIZONTALLY AND FOLLOW THE RULES OF THIS DETAIL CONSISTENTLY. A PRE-INSTALL DEVICE COORDINATION MEETING FOR DEVICE FINISHES AND LAYOUT MAY BE REQUIRED IN THE SPECIFICATION FOR THIS PROJECT.

3 REFER TO TECHNOLOGY, ELECTRICAL AND ARCHITECTURAL DETAILS AND ELEVATIONS FOR SYMBOL INFORMATION AND ELEVATION DETAIL.

4 DEVICES AND EQUIPMENT SHOWN DASHED OR WITH AN "X" ARE TO BE REMOVED. FIXTURES, DEVICES AND EQUIPMENT SHOWN LIGHTLY OR WITH AN "E" ARE EXISTING TO REMAIN UNDISTURBED.

5 DEVICES SHOWN WITH AN "R" ARE EXISTING TO BE REPLACED WITH NEW DEVICE AND COVERPLATE.

6 TEMPORARILY SUPPORT EXISTING CEILING DEVICES TO REMAIN IN EXISTING CEILINGS TO BE REPLACED. REINSTALL DEVICES INTO NEW CEILING.

7 CONTRACTOR SHALL BE RESPONSIBLE FOR PROJECT PHASING. TEMPORARY WIRING TO KEEP SYSTEMS RUNNING SHALL BE PROVIDED AS REQUIRED WHILE BUILDING IS OCCUPIED BETWEEN PHASES OF CONSTRUCTION.

GENERAL NOTES - STRUCTURED CABLE

1 BICSI TECHNICIAN (TECH) CERTIFICATION IS REQUIRED FOR THE LEAD INSTALLER THAT WILL BE ONSITE AT ALL TIMES.

2 EACH INSTALLER IS REQUIRED TO BE CERTIFIED BY THE MANUFACTURER OF THE PRODUCTS THAT ARE INSTALLED (I.E. PANDUIT, BELDEN, HUBBELL, COMMSCOPE, ETC.).

3 VALID BICSI TECH AND MANUFACTURER INSTALLER CERTIFICATES SHALL BE INCLUDED IN SUBMITTAL PACKAGE.

4 ALL CERTIFICATION TEST RESULTS OF THE STRUCTURED CABLING SYSTEM SHALL BE SUBMITTED TO TOWERPINKSTER AS PART OF THE CLOSEOUT PACKAGE.

5 STRUCTURED CABLING INTEGRATOR SHALL PROVIDE A MANUFACTURER'S 25 YEAR WARRANTY AT PROJECT COMPLETION.

6 ALL CABLES SHALL HAVE A MINIMUM OF 5FT SERVICE LOOP AT OUTLET LOCATION OR AS NOTED ON DRAWINGS.

7 ALL DATA CABLES SHALL HAVE A MINIMUM OF 5FT SERVICE LOOP IN THE TELECOMMUNICATIONS ROOM.

8 DATA CABLES SHALL NOT BE BUNDLED IN GROUPS OF MORE THAN 24 WITHIN A TELECOMMUNICATIONS ROOM.

9 STRUCTURED CABLING INTEGRATOR SHALL PROVIDE THE MINIMUM REQUIRED QUANTITY OF PATCH PANELS NEEDED FOR ALL DATA CABLES PLUS HAVE CAPACITY FOR A MINIMUM OF 20 FUTURE DATA CABLES.

10 ALL DATA FACEPLATES SHALL MATCH THE COLOR, STYLE AND MATERIAL (I.E. STAINLESS STEEL, PLASTIC, ETC.) OF THE ELECTRICAL DEVICE FACEPLATE WITHIN EACH SPACE.

11 ALL HORIZONTAL CABLES (CATEGORY CABLE, COAX, FIBER, ETC.) SHALL BE CERTIFIED BY USING A MINIMUM OF A LEVEL IIIE CERTIFICATION TESTER THAT IS WITHIN MANUFACTURER'S CALIBRATION PERIOD.

12 ALL BACKBONE FIBER STRANDS SHALL BE CERTIFIED BY USING A MINIMUM OF A LEVEL IIIE CERTIFICATION TESTER THAT IS WITHIN MANUFACTURER'S CALIBRATION PERIOD.

GENERAL NOTES - SECURITY CAMERA

1 INSTALLATION SHALL BE COMPLETED BY OR OVERSEEN BY A MANUFACTURER CERTIFIED PROFESSIONAL.

2 INSTALL CAMERAS USING ALL APPROPRIATE HANGERS, FASTENERS, ETC. CAMERAS INSTALLED IN GRID/LAY IN CEILING SHALL HAVE SAFETY WIRE TYING THE CAMERA TO STRUCTURE ABOVE. EXTERIOR CAMERAS SHALL HAVE WEATHERTIGHT SEALANT AND SURGE SUPPRESSION INSTALLED. REFER TO CAMERA ROUGH IN DETAILS.

3 PRIOR TO CONNECTION TO OWNER'S NETWORK, DEFAULT USERNAME AND PASSWORD SHALL BE CHANGED. COORDINATE WITH OWNER FOR DEVICE SPECIFIC USERNAMES AND PASSWORDS.

4 CAMERA SHALL BE CONFIGURED BASED ON OWNER'S NETWORK CONFIGURATION AND NAMING STANDARDS. COMPLETE AN IP ADDRESS REQUEST WITH THE OWNER, COORDINATE NAMING CONFIGURATION BASED ON CAMERA COORDINATION SPREADSHEET.

5 INSTALL CAMERAS WITH INITIAL VIEW DEFINED BY THE CAMERA COORDINATION SPREADSHEET OR COVERAGE ANGLES PROVIDED BY ARCHITECT. VARIFOCAL AIMING WHERE REQUIRED TO OBTAIN INTENDED VIEW SHALL BE COMPLETED.

6 FOLLOWING SETTING THE INITIAL VIEW, COORDINATE AIMING MODIFICATIONS WITH ARCHITECT AND OWNER AND OBTAIN SIGN OFF PER CAMERA THROUGH THE CAMERA AIMING COORDINATION SPREADSHEET.

7 CONFIGURE CAMERA TO RECORD TO NVR BASED ON OWNER'S RECORDING CONFIGURATION STANDARDS. RESOLUTION, FRAMES PER SECOND, CONTINUOUS/MOTION ACTIVATED RECORDING, ANALYTICS, AND ANY OTHER FEATURES SHALL BE COORDINATED.

8 LABEL CAMERA HOUSING IN A LOCATION VISIBLE FROM THE GROUND. REFER TO CAMERA LABELING DETAIL FOR REQUIREMENTS.

9 CAMERA SYMBOLS AND COVERAGE ANGLES SHALL BE SET IN VMS MAPS ONCE OWNER AND ARCHITECT HAVE SIGNED OFF ON VIEWS.

A2

GENERAL NOTES - ACCESS CONTROLS

1 ALL INSTALLATION AND PROGRAMMING SHALL BE COMPLETED BY OR OVERSEEN BY A MANUFACTURER CERTIFIED INSTALLER.

2 PRIOR TO CONNECTING ANY DEVICE TO THE NETWORK, DEFAULT USERNAMES AND PASSWORDS SHALL BE CHANGED TO OWNER'S STANDARDS.

3 CABLES SHALL BE NEATLY MANAGED AND LABELED WITHIN ACCESS CONTROL PANELS. ZIP TIES ARE NOT ACCEPTABLE METHODS OF CABLE MANAGEMENT.

4 EACH ACCESS CONTROL CABLE SHALL BE LABELED WITH THEIR FUNCTION AT THE ACCESS CONTROL PANEL. REFER TO ACCESS CONTROL LABELING DETAILS FOR REQUIREMENTS.

5 UNLESS NOTED OTHERWISE, POWER SUPPLIES SHALL BE HARD WIRED AND NOT CORD AND PLUG. COORDINATE WITH ELECTRICAL CONTRACTOR TO CONNECT TO AN EMERGENCY OR GENERATOR-FED CIRCUIT.

6 COORDINATE WITH OWNER TO PROGRAM DOORS AND DEVICES ACCORDING TO OWNER'S NAMING CONVENTIONS.

7 REFER TO ACCESS CONTROL SCHEDULE FOR PROGRAMMING REQUIREMENTS OF EACH DOOR.

8 ANY SPARE CONDUCTORS/CABLES SHALL BE SPOOLED ABOVE ACCESSIBLE CEILING NEAR DOOR AND LABELED WITH THE DOOR NUMBER AND PANEL NUMBER, AS WELL AS "SPARE".

GENERAL NOTES - VIDEO SYSTEM

1 INSTALLED VIDEO SYSTEMS SHALL NOT HAVE NOISE, FLICKER, UNEVEN BRIGHTNESS, OR ANY OTHER VISUAL ANOMALIES OR DEFICIENCIES

2 EDID SHALL BE MANAGED AND MAINTAINED TO ENSURE PROPER DISPLAY IDENTIFICATION BY SOURCES

3 HDCP SHALL BE MAINTAINED FROM ALL SOURCES TO ALL SINKS

4 COORDINATE ALL NETWORK NEEDS WITH OWNER INCLUDING IP ADDRESSING, PROTOCOLS REQUIRED FOR EQUIPMENT OPERATION, AND BANDWIDTH IMPLICATIONS

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

TowerPinkster
Architecture - Engineering - Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02-04-2026

ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS

Kalamazoo, Michigan

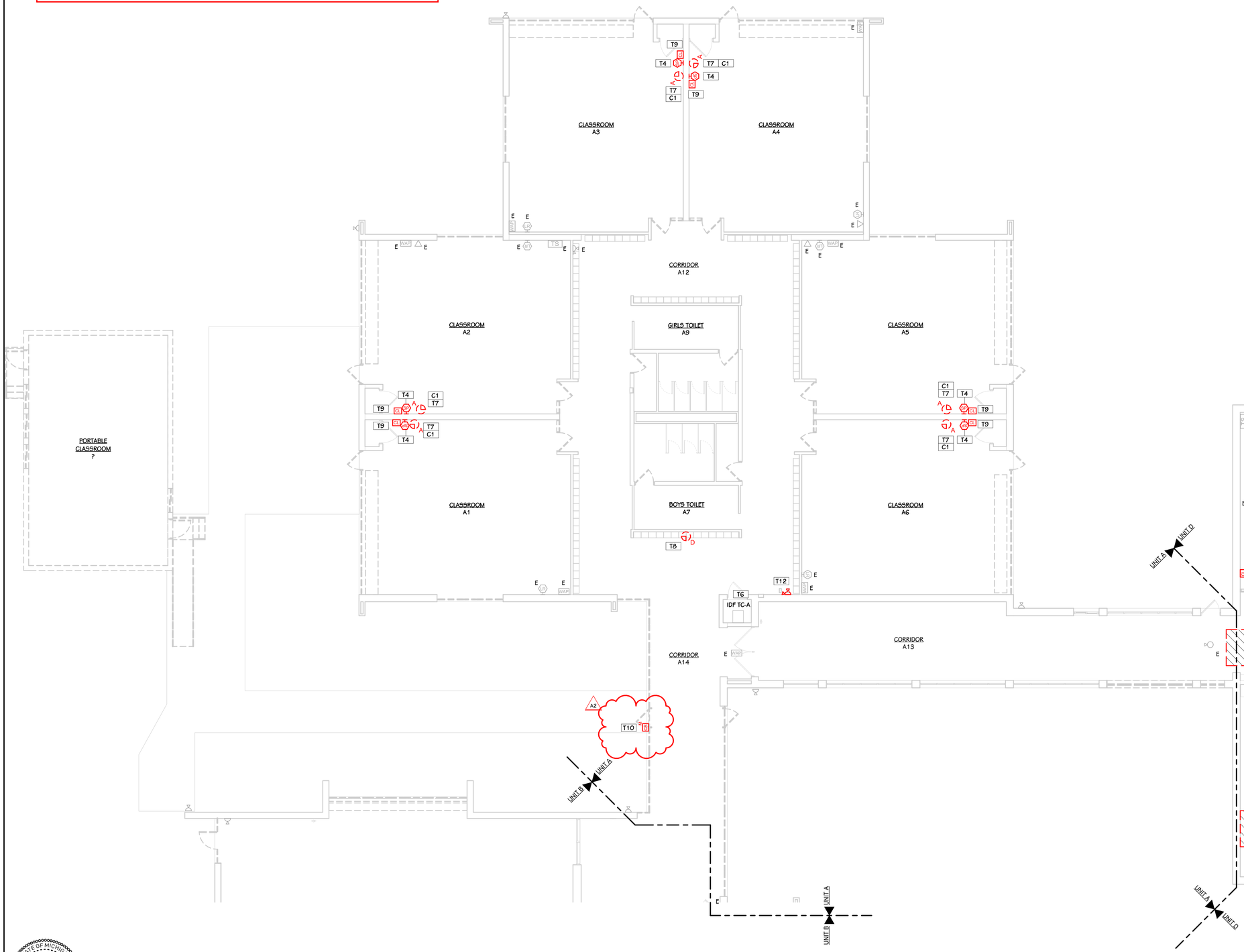
SHEET TITLE
TECHNOLOGY SYMBOLS AND GENERAL NOTES

DATE
JANUARY 9, 2026

SHEET NUMBER
TG 001

23-638.00

TECHNOLOGY NOTES SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND ARE PART OF A SEPARATE PROJECT #23-650.019



FIRST FLOOR TECHNOLOGY DEMOLITION PLAN - UNIT A
1/8" = 1'-0"

KEYED NOTES - DEMOLITION - CONSTRUCTION MANAGER C#

C1 STEEL PLATE SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR TO COVER EXISTING HOLE. CM SHALL COORDINATE PAINTING OF STEEL PLATE TO MATCH EXISTING WALL COLOR. THIS LOCATION SHALL NOT HAVE A NEW DEVICE INSTALLED.

KEYED NOTES - DEMOLITION - TECHNOLOGY CONTRACTOR T#

T1 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE WIRELESS ACCESS POINT. DOCUMENT MAC ADDRESS, DATA CABLE NUMBER, AND ASSOCIATED ROOM NUMBER. DELIVER TO KPS TECHNOLOGY SERVICES*. THIS SHALL BE PART OF A SEPARATE PROJECT.

T2 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE AV SPEAKERS AND RETURN TO KPS TECHNOLOGY SERVICES* FOR FUTURE INSTALLATION. SPEAKER WIRE SHALL BE LABELED, COILED AND LEFT IN PLACE FOR FUTURE USE. THIS SHALL BE PART OF A SEPARATE PROJECT.

T3 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE PAGING SPEAKER AND DISPOSE OF PROPERLY. TRACE CABLING TO SOURCE AND REMOVE. THIS SHALL BE PART OF A SEPARATE PROJECT.

T4 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE PAGING SPEAKER FROM PAGING SPEAKER HOUSING AND DISPOSE OF PROPERLY. IF NEEDED, ENTIRE SPEAKER MAY BE REMOVED. TRACE CABLE TO SOURCE AND REMOVE. NEW STEEL PLATE AND CLOCK SHALL BE INSTALLED OVER THE DEMOLISHED PAGING SPEAKER HOLE. THIS SHALL BE PART OF A SEPARATE PROJECT.

T5 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE EXISTING BOGEN PAGING SYSTEM. ALL CABLING SHALL BE TRACED AND REMOVED. RETURN HARDWARE TO KPS TECHNOLOGY SERVICES*. THIS SHALL BE PART OF A SEPARATE PROJECT.

T6 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE CAREHAWK HARDWARE FROM MDF / IDF. RETURN TO KPS TECHNOLOGY SERVICES*. THIS SHALL BE PART OF A SEPARATE PROJECT.

T7 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE PRIMEX CLOCK. DOCUMENT ASSOCIATED ROOM NUMBER. DELIVER TO KPS TECHNOLOGY SERVICES*. STEEL PLATE SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR TO COVER THE EXISTING HOLE. CM SHALL PAINT PLATE TO MATCH THE EXISTING WALL COLOR. THIS LOCATION SHALL NOT HAVE A NEW DEVICE INSTALLED. THIS SHALL BE PART OF A SEPARATE PROJECT.

T8 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE PRIMEX CLOCK. DOCUMENT ASSOCIATED ROOM NUMBER. DELIVER TO KPS TECHNOLOGY SERVICES*. THIS SHALL BE PART OF A SEPARATE PROJECT.

T9 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE CALL BUTTON AND TRACE CABLING TO SOURCE AND REMOVE.

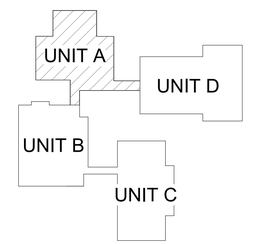
T10 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE CARD READER AND RETURN TO KPS TECHNOLOGY SERVICES*. TECHNOLOGY CONTRACTOR SHALL TRACE CABLING OUT OF FRAME AND COIL AT NEAREST INTERIOR WALL / CEILING FOR FUTURE INSTALL OF DOOR HARDWARE AND CARD READER. THIS SHALL BE PART OF A SEPARATE PROJECT.

T12 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REMOVE CAMERA AND RETURN TO KPS TECHNOLOGY SERVICES*. LABEL CABLE AND TRACE BACK TO CEILING, REMOVING THE SURFACE RACEWAY TO ALLOW FREE SPACE OF NEW ELECTRICAL CHASE INSTALLATION. COIL THE CABLE AT THE CEILING FOR FUTURE INSTALL.

A2 *KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008
**KEYED NOTE T11 WAS REMOVED AS A PART OF ADDENDUM 2.

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ISSUED FOR	DATE
ADDENDUM #2	02-04-2026

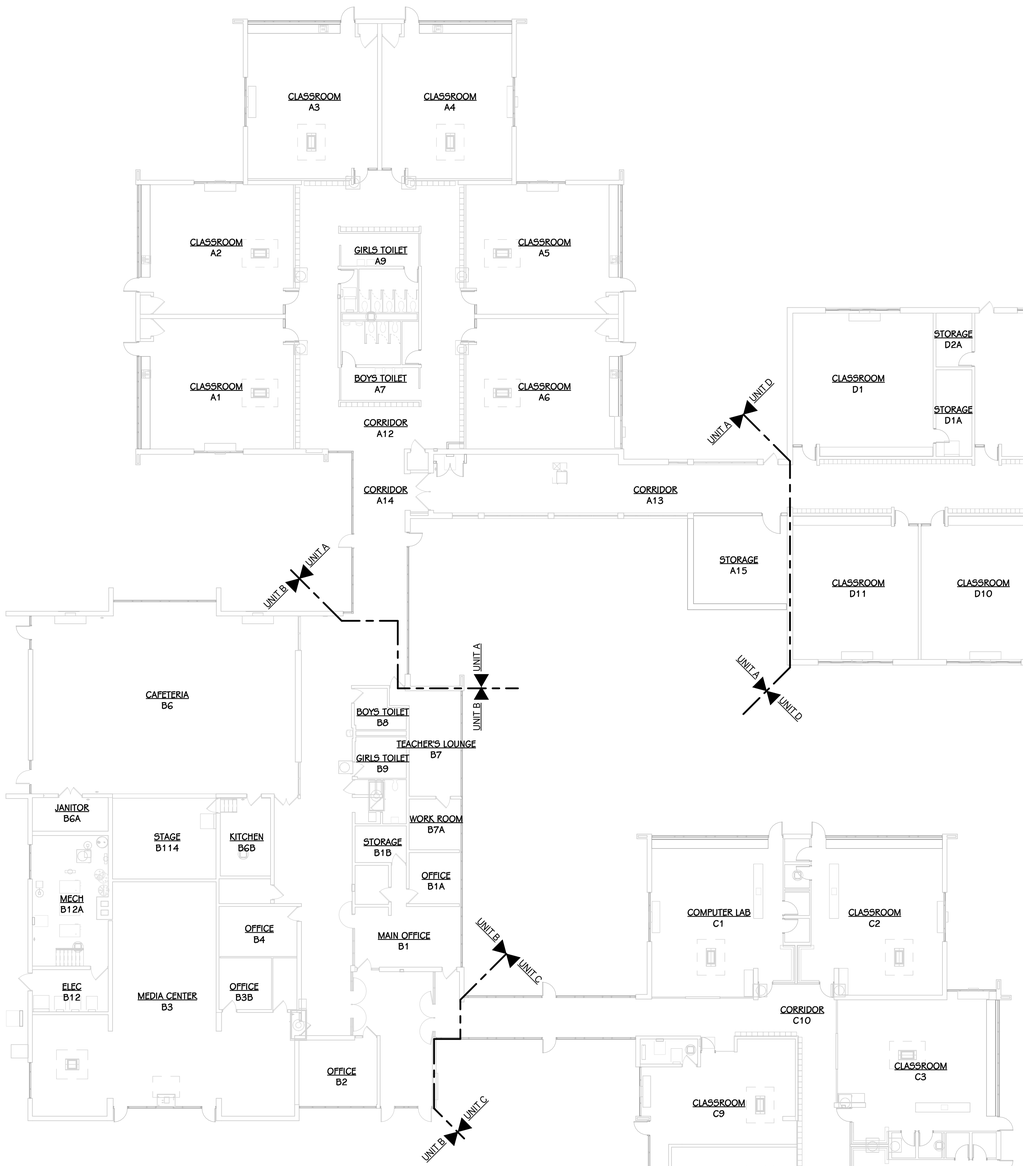
PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
FIRST FLOOR TECHNOLOGY DEMOLITION PLAN - UNIT A

DATE
JANUARY 9, 2026

SHEET NUMBER
TD 101A
23-638.00



OVERALL FIRST FLOOR TECHNOLOGY PLAN
1/16" = 1'-0"

KEYED NOTES - CONSTRUCTION - CONSTRUCTION MANAGER C#

C1 THIS CLOCK LOCATION SHALL NOT HAVE A NEW CLOCK. THE TECHNOLOGY CONTRACTOR SHALL INSTALL A STEEL PLATE TO COVER THE EXISTING HOLE. CM SHALL COORDINATE PAINTING TO MATCH THE EXISTING WALL COLOR.

C2 SKILLMAN / EC SHALL PROVIDE CARD READER AND DOOR ACCESS CONTROL ROUGH-INS, INCLUDING JUNCTION BOXES, CONDUIT, AND CARD READER BOXES. USE SURFACE MOUNT RACEWAYS AT EXISTING LOCATIONS. REFER TO DETAILS. WIRING AND DEVICES SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR. COORDINATE WITH THE TECH CONTRACTOR WHEN THE NEW DOOR FRAME IS INSTALLED TO ALLOW THE TECH CONTRACTOR TO LAND WIRES INTO FRAME.

KEYED NOTES - CONSTRUCTION - TECHNOLOGY CONTRACTOR T#

T1 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE WIRELESS ACCESS POINT FROM KPS TECHNOLOGY SERVICES*. INSTALL WIRELESS ACCESS POINT USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

T2 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW STEEL PLATE OVER DEMOLISHED PAGING SPEAKER HOUSING / HOLE. ATLASIED END POINT SHALL BE INSTALLED TO THE STEEL PLATE. COORDINATE WITH CM TO PAINT TO MATCH THE EXISTING WALL COLOR. ONE (1) NEW DATA CABLE SHALL BE RUN TO THIS LOCATION. USE EXISTING PATHWAY TO CONNECT ATLASIED END-POINT TO CALL BUTTON. THIS SHALL BE PART OF A SEPARATE PROJECT.

T3 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW ATLAS IED END POINT AT DEMOLISHED CLOCK LOCATION.

T4 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL CONNECT CALL BUTTON TO THE ATLASIED ENDPOINT IN THE SAME ROOM USING NEW CABLING. CONCEALED WIRING IS PREFERRED. SURFACE RACEWAY MAY BE USED BETWEEN CALL BUTTON AND END POINT. THIS SHALL BE PART OF A SEPARATE PROJECT.

T5 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE AV SPEAKER FROM KPS TECHNOLOGY SERVICES. INSTALL SPEAKER USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

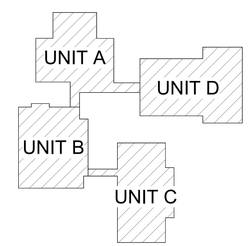
T6 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REINSTALL EXISTING CARD READER.

T8 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE CAMERA FROM KPS TECHNOLOGY SERVICES*. INSTALL CAMERA USING EXISTING CABLING. REPLACE WITH LONGER PATCH CABLE AS REQUIRED. DIAL CAMERA DOMES AND CONFIRM VIEWS WITH THE OWNER.

*KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008
**KEYED NOTE T7 WAS REMOVED AS A PART OF ADDENDUM 2.

ISSUED FOR	DATE
ADDENDUM #2	02-04-2026

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

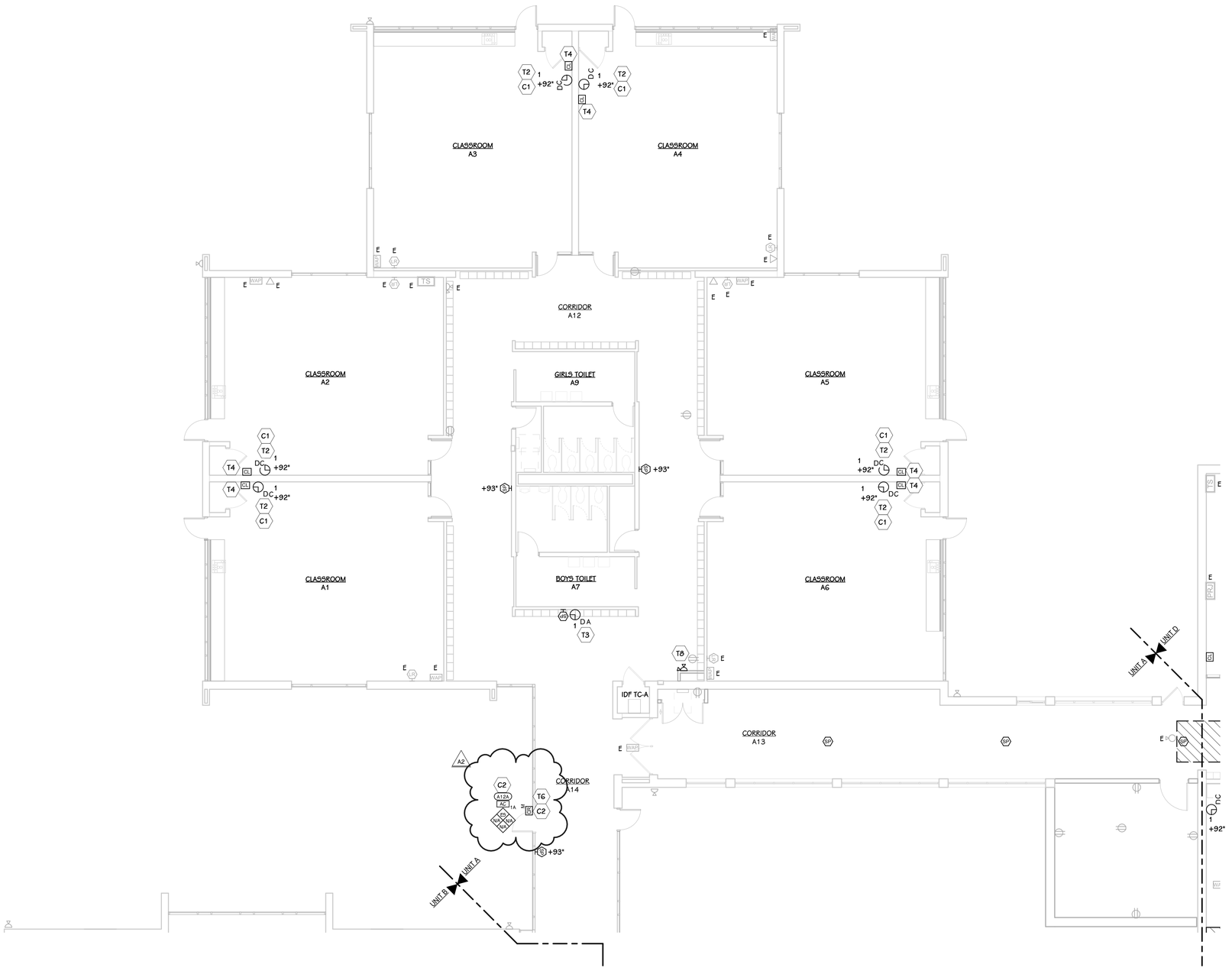
PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
OVERALL FIRST FLOOR TECHNOLOGY PLAN

DATE
JANUARY 9, 2026

SHEET NUMBER
T 101
23-638.00



FIRST FLOOR TECHNOLOGY PLAN - UNIT A
1/8" = 1'-0"

KEYED NOTES - CONSTRUCTION - CONSTRUCTION MANAGER C#

C1 THIS CLOCK LOCATION SHALL NOT HAVE A NEW CLOCK. THE TECHNOLOGY CONTRACTOR SHALL INSTALL A STEEL PLATE TO COVER THE EXISTING HOLE. CM SHALL COORDINATE PAINTING TO MATCH THE EXISTING WALL COLOR.

C2 SKILLMAN / EC SHALL PROVIDE CARD READER AND DOOR ACCESS CONTROL ROUGH-INS, INCLUDING JUNCTION BOXES, CONDUIT, AND CARD READER BOXES. USE SURFACE MOUNT RACEWAYS AT EXISTING LOCATIONS. REFER TO DETAILS. WIRING AND DEVICES SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR. COORDINATE WITH THE TECH CONTRACTOR WHEN THE NEW DOOR FRAME IS INSTALLED TO ALLOW THE TECH CONTRACTOR TO LAND WIRES INTO FRAME.

KEYED NOTES - CONSTRUCTION - TECHNOLOGY CONTRACTOR T#

T1 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE WIRELESS ACCESS POINT FROM KPS TECHNOLOGY SERVICES*. INSTALL WIRELESS ACCESS POINT USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

T2 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW STEEL PLATE OVER DEMOLISHED PAGING SPEAKER HOUSING / HOLE. ATLASIED END POINT SHALL BE INSTALLED TO THE STEEL PLATE. COORDINATE WITH CM TO PAINT TO MATCH THE EXISTING WALL COLOR. ONE (1) NEW DATA CABLE SHALL BE RUN TO THIS LOCATION. USE EXISTING PATHWAY TO CONNECT ATLASIED END-POINT TO CALL BUTTON. THIS SHALL BE PART OF A SEPARATE PROJECT.

T3 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW ATLAS IED END POINT AT DEMOLISHED CLOCK LOCATION.

T4 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL CONNECT CALL BUTTON TO THE ATLASIED ENDPOINT IN THE SAME ROOM USING NEW CABLING. CONCEALED WIRING IS PREFERRED. SURFACE RACEWAY MAY BE USED BETWEEN CALL BUTTON AND END POINT. THIS SHALL BE PART OF A SEPARATE PROJECT.

T5 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE AV SPEAKER FROM KPS TECHNOLOGY SERVICES. INSTALL SPEAKER USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

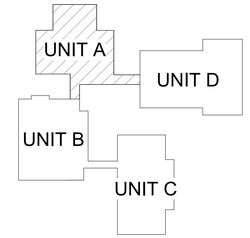
T6 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REINSTALL EXISTING CARD READER.

T8 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE CAMERA FROM KPS TECHNOLOGY SERVICES*. INSTALL CAMERA USING EXISTING CABLING. REPLACE WITH LONGER PATCH CABLE AS REQUIRED. DIAL CAMERA DOMES AND CONFIRM VIEWS WITH THE OWNER.

*KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008
**KEYED NOTE T7 WAS REMOVED AS A PART OF ADDENDUM 2.

A2 ADDENDUM #2	02-04-2026
ISSUED FOR	DATE

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

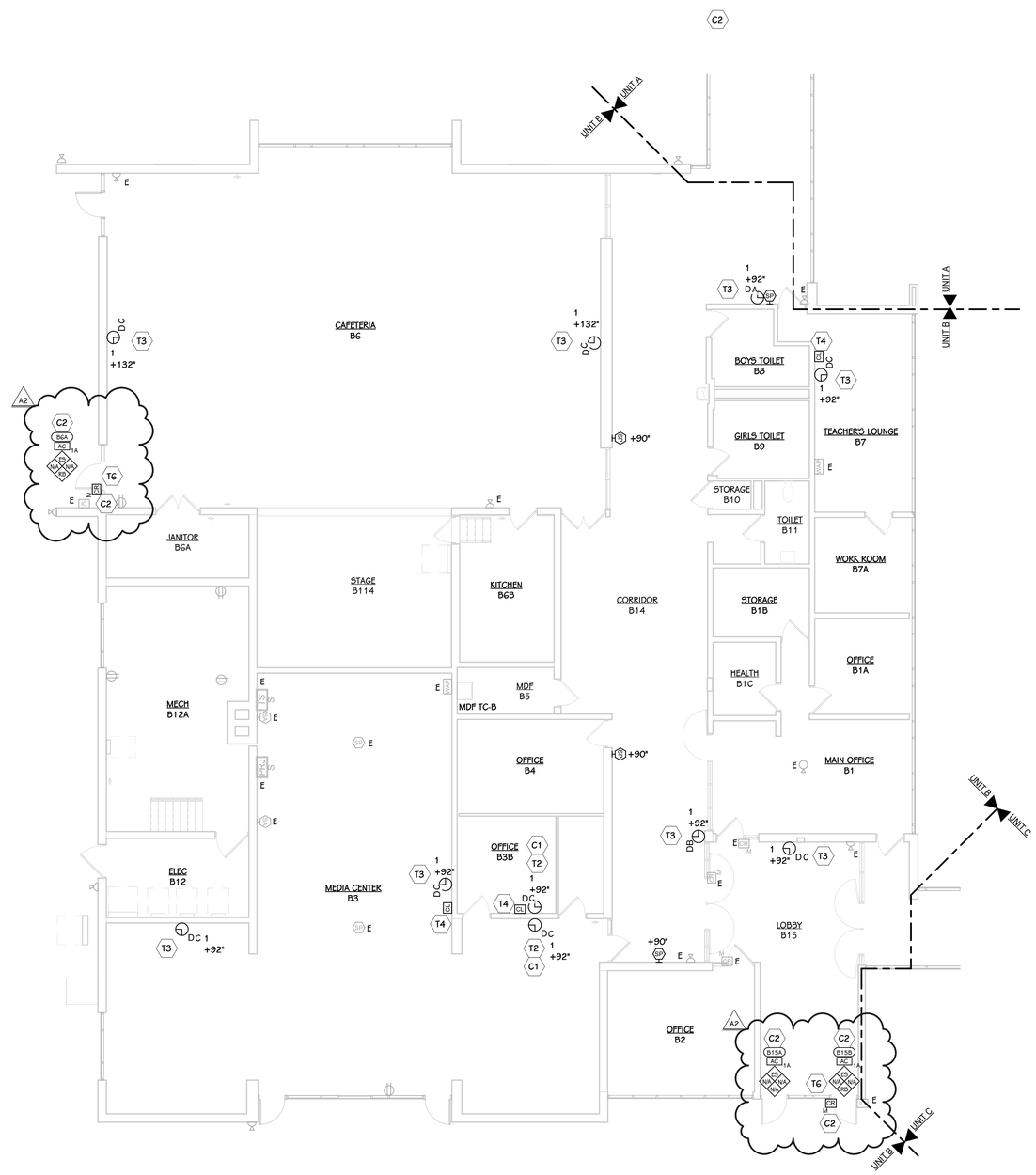
PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
FIRST FLOOR TECHNOLOGY PLAN - UNIT A

DATE
JANUARY 9, 2026

SHEET NUMBER
T 101A
23-638.00



FIRST FLOOR TECHNOLOGY PLAN - UNIT B
1/8" = 1'-0"

KEYED NOTES - CONSTRUCTION - CONSTRUCTION MANAGER

C1 THIS CLOCK LOCATION SHALL NOT HAVE A NEW CLOCK. THE TECHNOLOGY CONTRACTOR SHALL INSTALL A STEEL PLATE TO COVER THE EXISTING HOLE. CM SHALL COORDINATE PAINTING TO MATCH THE EXISTING WALL COLOR.

C2 SKILLMAN / EC SHALL PROVIDE CARD READER AND DOOR ACCESS CONTROL ROUGH-INS, INCLUDING JUNCTION BOXES, CONDUIT, AND CARD READER BOXES. USE SURFACE MOUNT RACEWAYS AT EXISTING LOCATIONS. REFER TO DETAILS. WIRING AND DEVICES SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR. COORDINATE WITH THE TECH CONTRACTOR WHEN THE NEW DOOR FRAME IS INSTALLED TO ALLOW THE TECH CONTRACTOR TO LAND WIRES INTO FRAME.

KEYED NOTES - CONSTRUCTION - TECHNOLOGY CONTRACTOR

T1 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE WIRELESS ACCESS POINT FROM KPS TECHNOLOGY SERVICES*. INSTALL WIRELESS ACCESS POINT USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

T2 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW STEEL PLATE OVER DEMOLISHED PAGING SPEAKER HOUSING / HOLE. ATLASIED END POINT SHALL BE INSTALLED TO THE STEEL PLATE. COORDINATE WITH CM TO PAINT TO MATCH THE EXISTING WALL COLOR. ONE (1) NEW DATA CABLE SHALL BE RUN TO THIS LOCATION. USE EXISTING PATHWAY TO CONNECT ATLASIED END-POINT TO CALL BUTTON. THIS SHALL BE PART OF A SEPARATE PROJECT.

T3 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW ATLAS IED END POINT AT DEMOLISHED CLOCK LOCATION.

T4 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL CONNECT CALL BUTTON TO THE ATLASIED ENDPOINT IN THE SAME ROOM USING NEW CABLING. CONCEALED WIRING IS PREFERRED. SURFACE RACEWAY MAY BE USED BETWEEN CALL BUTTON AND END POINT. THIS SHALL BE PART OF A SEPARATE PROJECT.

T5 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE AV SPEAKER FROM KPS TECHNOLOGY SERVICES. INSTALL SPEAKER USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

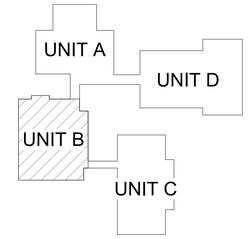
T6 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REINSTALL EXISTING CARD READER.

T8 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE CAMERA FROM KPS TECHNOLOGY SERVICES*. INSTALL CAMERA USING EXISTING CABLING. REPLACE WITH LONGER PATCH CABLE AS REQUIRED. DIAL CAMERA DOMES AND CONFIRM VIEWS WITH THE OWNER.

*KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008
**KEYED NOTE T7 WAS REMOVED AS A PART OF ADDENDUM 2.

ISSUED FOR	DATE
ADDENDUM #2	02-04-2026

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

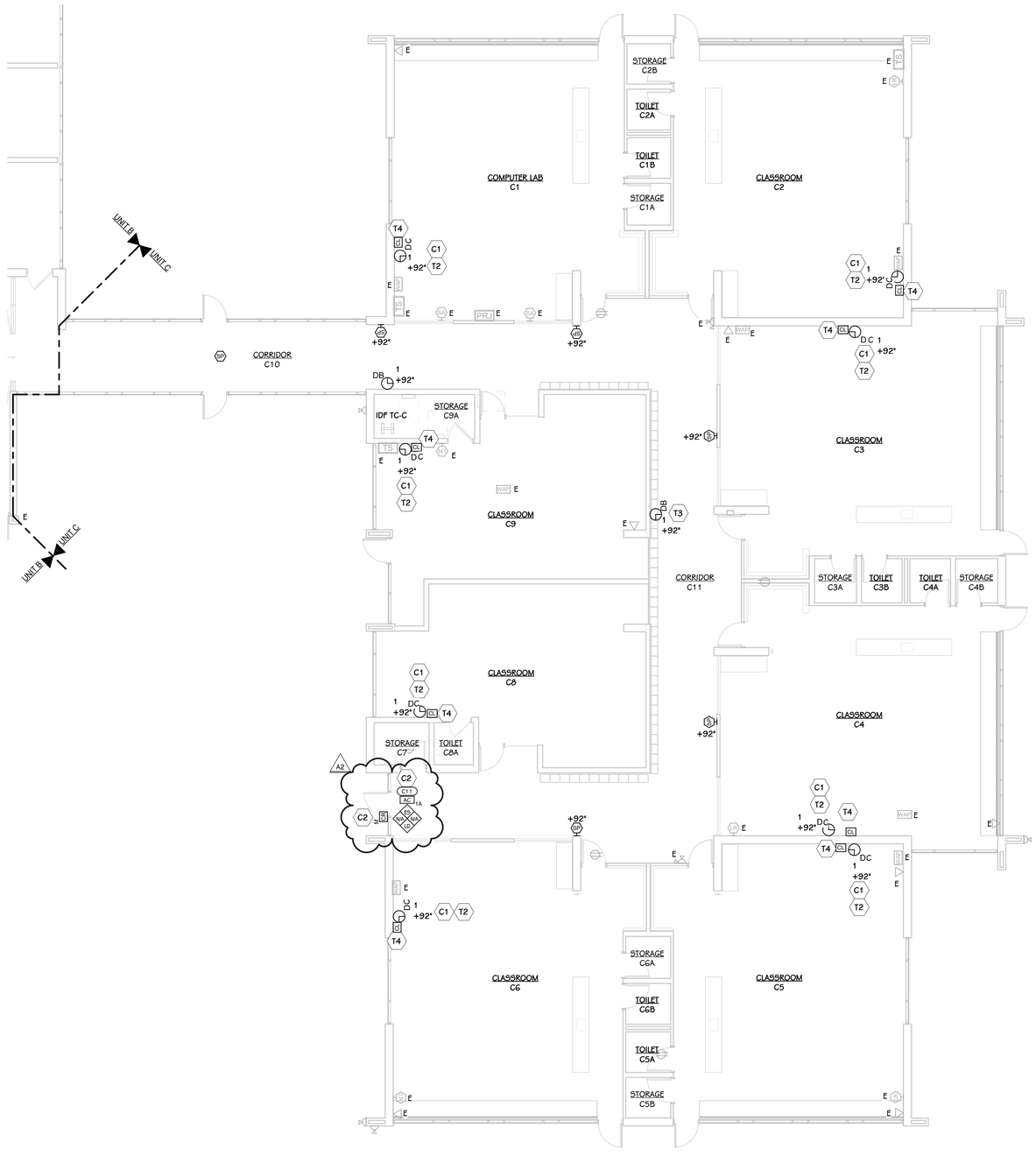
PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
FIRST FLOOR TECHNOLOGY PLAN - UNIT B

DATE
JANUARY 9, 2026

SHEET NUMBER
T 101B
23-638.00



FIRST FLOOR TECHNOLOGY PLAN - UNIT C
1/8" = 1'-0"

KEYED NOTES - CONSTRUCTION - CONSTRUCTION MANAGER

C1 THIS CLOCK LOCATION SHALL NOT HAVE A NEW CLOCK. THE TECHNOLOGY CONTRACTOR SHALL INSTALL A STEEL PLATE TO COVER THE EXISTING HOLE. CM SHALL COORDINATE PAINTING TO MATCH THE EXISTING WALL COLOR.

C2 SKILLMAN / EC SHALL PROVIDE CARD READER AND DOOR ACCESS CONTROL ROUGH-INS, INCLUDING JUNCTION BOXES, CONDUIT, AND CARD READER BOXES. USE SURFACE MOUNT RACEWAYS AT EXISTING LOCATIONS. REFER TO DETAILS. WIRING AND DEVICES SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR. COORDINATE WITH THE TECH CONTRACTOR WHEN THE NEW DOOR FRAME IS INSTALLED TO ALLOW THE TECH CONTRACTOR TO LAND WIRES INTO FRAME.

KEYED NOTES - CONSTRUCTION - TECHNOLOGY CONTRACTOR

T1 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE WIRELESS ACCESS POINT FROM KPS TECHNOLOGY SERVICES*. INSTALL WIRELESS ACCESS POINT USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

T2 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW STEEL PLATE OVER DEMOLISHED PAGING SPEAKER HOUSING / HOLE. ATLASIED END POINT SHALL BE INSTALLED TO THE STEEL PLATE. COORDINATE WITH CM TO PAINT TO MATCH THE EXISTING WALL COLOR. ONE (1) NEW DATA CABLE SHALL BE RUN TO THIS LOCATION. USE EXISTING PATHWAY TO CONNECT ATLASIED END-POINT TO CALL BUTTON. THIS SHALL BE PART OF A SEPARATE PROJECT.

T3 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW ATLAS IED END POINT AT DEMOLISHED CLOCK LOCATION.

T4 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL CONNECT CALL BUTTON TO THE ATLASIED ENDPOINT IN THE SAME ROOM USING NEW CABLING. CONCEALED WIRING IS PREFERRED. SURFACE RACEWAY MAY BE USED BETWEEN CALL BUTTON AND END POINT. THIS SHALL BE PART OF A SEPARATE PROJECT.

T5 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE AV SPEAKER FROM KPS TECHNOLOGY SERVICES. INSTALL SPEAKER USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

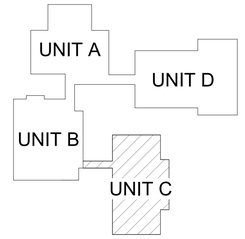
T6 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REINSTALL EXISTING CARD READER.

T8 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE CAMERA FROM KPS TECHNOLOGY SERVICES*. INSTALL CAMERA USING EXISTING CABLING. REPLACE WITH LONGER PATCH CABLE AS REQUIRED. DIAL CAMERA DOMES AND CONFIRM VIEWS WITH THE OWNER.

*KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008
**KEYED NOTE T7 WAS REMOVED AS A PART OF ADDENDUM 2.

ISSUED FOR	DATE
ADDENDUM #2	02-04-2026

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

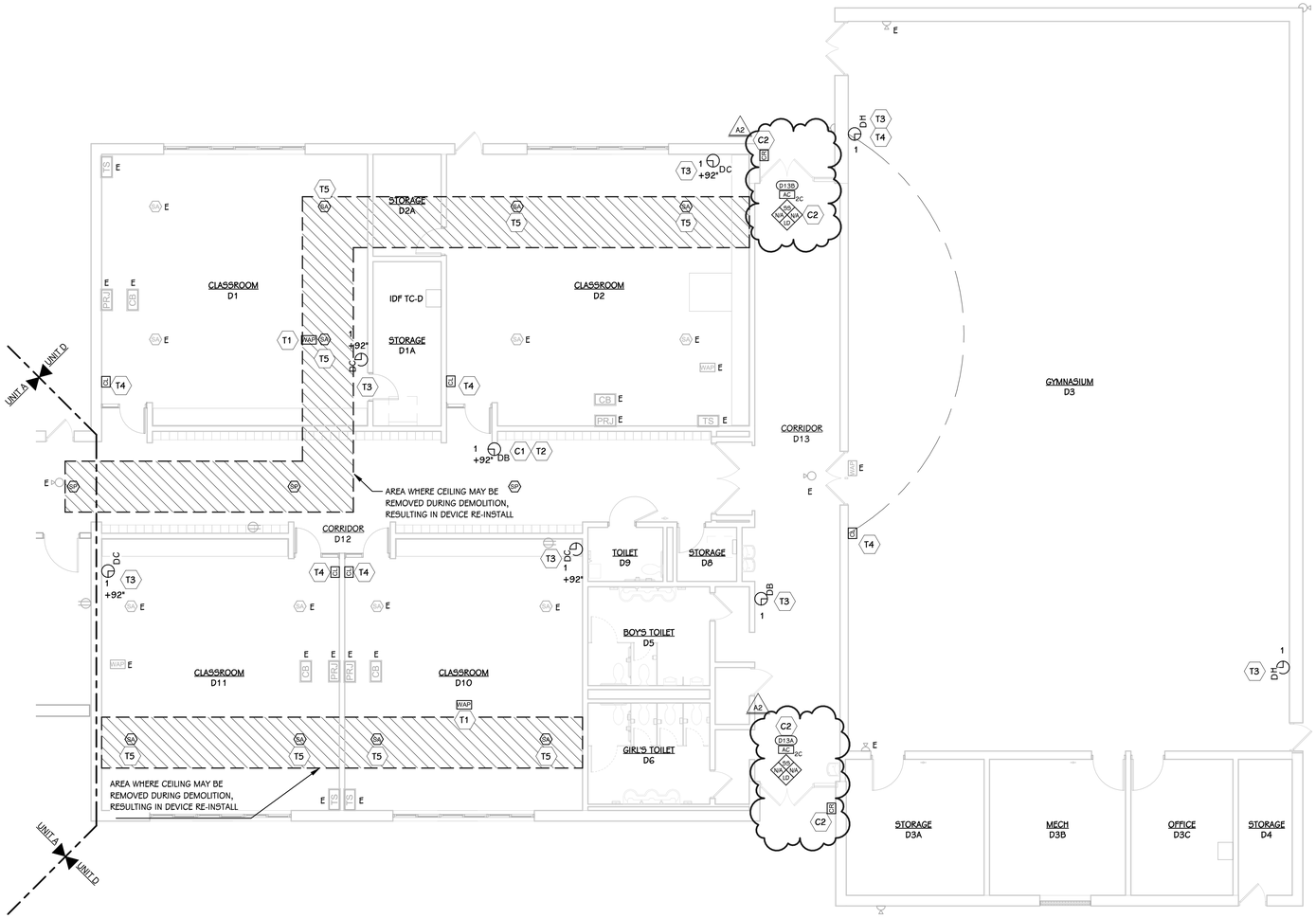
OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
FIRST FLOOR TECHNOLOGY PLAN - UNIT C

DATE
JANUARY 9, 2026

SHEET NUMBER
T 101C
23-638.00

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT



FIRST FLOOR TECHNOLOGY PLAN - UNIT D
1/8" = 1'-0"

KEYED NOTES - CONSTRUCTION - CONSTRUCTION MANAGER

C1 THIS CLOCK LOCATION SHALL NOT HAVE A NEW CLOCK. THE TECHNOLOGY CONTRACTOR SHALL INSTALL A STEEL PLATE TO COVER THE EXISTING HOLE. CM SHALL COORDINATE PAINTING TO MATCH THE EXISTING WALL COLOR.

C2 SKILLMAN / EC SHALL PROVIDE CARD READER AND DOOR ACCESS CONTROL ROUGH-INS, INCLUDING JUNCTION BOXES, CONDUIT, AND CARD READER BOXES. USE SURFACE MOUNT RACEWAYS AT EXISTING LOCATIONS. REFER TO DETAILS. WIRING AND DEVICES SHALL BE INSTALLED BY THE TECHNOLOGY CONTRACTOR. COORDINATE WITH THE TECH CONTRACTOR WHEN THE NEW DOOR FRAME IS INSTALLED TO ALLOW THE TECH CONTRACTOR TO LAND WIRES INTO FRAME.

KEYED NOTES - CONSTRUCTION - TECHNOLOGY CONTRACTOR

T1 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE WIRELESS ACCESS POINT FROM KPS TECHNOLOGY SERVICES*. INSTALL WIRELESS ACCESS POINT USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

T2 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW STEEL PLATE OVER DEMOLISHED PAGING SPEAKER HOUSING / HOLE. ATLASIED END POINT SHALL BE INSTALLED TO THE STEEL PLATE. COORDINATE WITH CM TO PAINT TO MATCH THE EXISTING WALL COLOR. ONE (1) NEW DATA CABLE SHALL BE RUN TO THIS LOCATION. USE EXISTING PATHWAY TO CONNECT ATLASIED END-POINT TO CALL BUTTON. THIS SHALL BE PART OF A SEPARATE PROJECT.

T3 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL INSTALL NEW ATLASIED END POINT AT DEMOLISHED CLOCK LOCATION.

T4 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL CONNECT CALL BUTTON TO THE ATLASIED ENDPOINT IN THE SAME ROOM USING NEW CABLING. CONCEALED WIRING IS PREFERRED. SURFACE RACEWAY MAY BE USED BETWEEN CALL BUTTON AND END POINT. THIS SHALL BE PART OF A SEPARATE PROJECT.

T5 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE AV SPEAKER FROM KPS TECHNOLOGY SERVICES. INSTALL SPEAKER USING EXISTING CABLING. THIS SHALL BE PART OF A SEPARATE PROJECT.

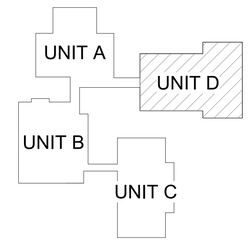
T6 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL REINSTALL EXISTING CARD READER.

T8 SHOWN FOR REFERENCE ONLY. TECHNOLOGY CONTRACTOR SHALL RETRIEVE CAMERA FROM KPS TECHNOLOGY SERVICES*. INSTALL CAMERA USING EXISTING CABLING. REPLACE WITH LONGER PATCH CABLE AS REQUIRED. DIAL CAMERA DOMES AND CONFIRM VIEWS WITH THE OWNER.

*KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008
**KEYED NOTE T7 WAS REMOVED AS A PART OF ADDENDUM 2.

ISSUED FOR	DATE
ADDENDUM #2	02-04-2026

NORTHGLADE MONTESSORI SCHOOL



KEY PLAN
SCALE: NO SCALE

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
FIRST FLOOR TECHNOLOGY PLAN - UNIT D

DATE
JANUARY 9, 2026

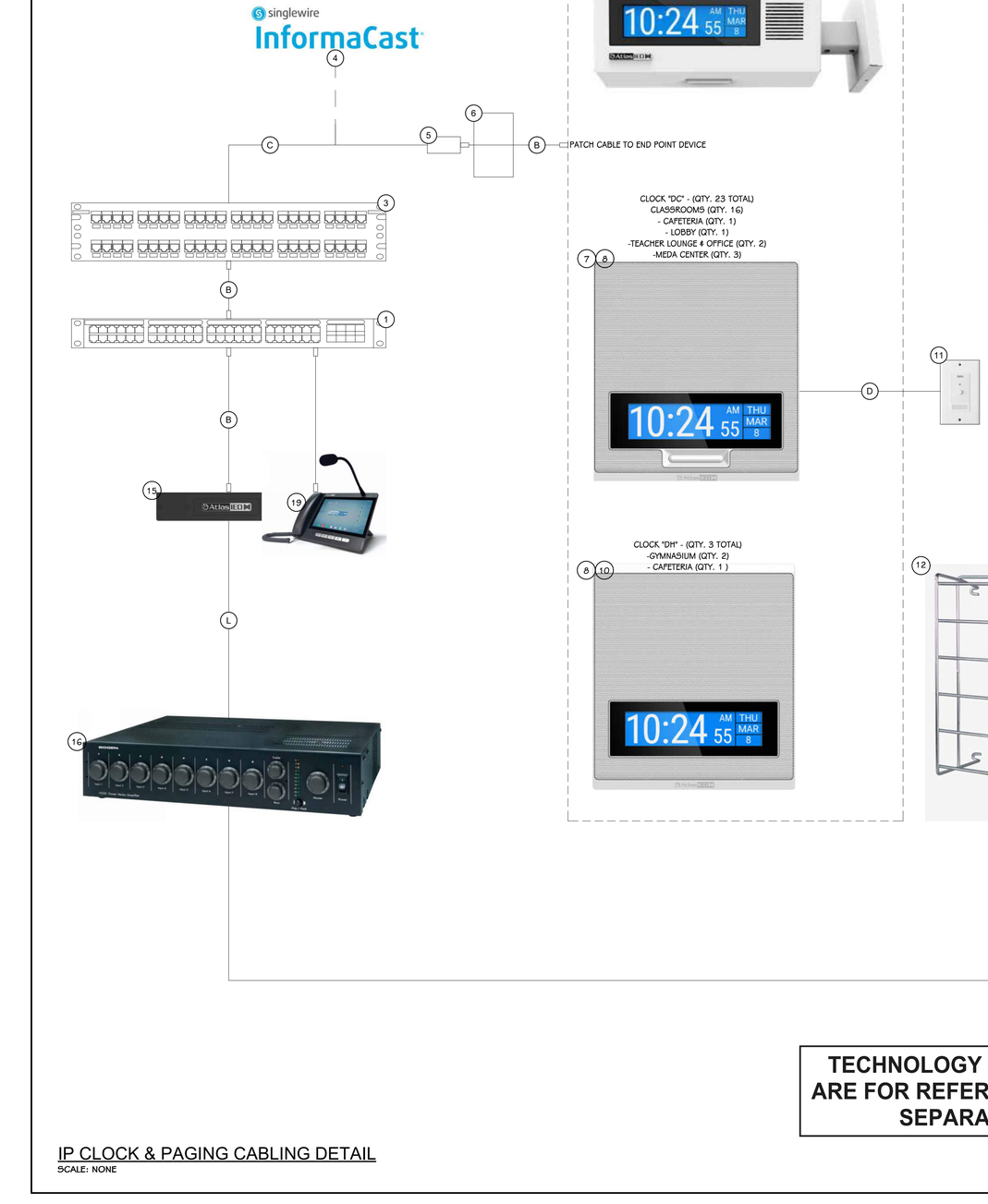
SHEET NUMBER
T 101D
23-638.00

A2

NOTES

1. CONFIGURE CLOCKS TO UTILIZE OWNER NTP SERVER. COORDINATE IP ADDRESSING WITH OWNER. COORDINATE WITH PAGING CONTRACTOR TO ENSURE CLOCKS AND PAGING CONTROLLER ARE BOTH CONFIGURED TO UTILIZE THE SAME NTP SERVER ADDRESS.
2. ENSURE DEFAULT LOGIN/PASSWORD CREDENTIALS ARE CHANGED TO OWNER DEFINED PARAMETERS PRIOR TO INSTALLATION ON THE LOCAL AREA NETWORK.
3. THE EXISTING ACCESS CONTROL LOCKDOWN SHALL BE INTEGRATED WITH THE INFORMACAST SOFTWARE AND ATLASIED END POINTS. VISUAL AND AUDIO SHALL BE CUED ON ALL ATLASIED END-POINTS IN THE EVENT OF A LOCKDOWN. SCREEN COLOR AND MESSAGE SHALL BE COORDINATED WITH OWNER.
4. TECHNOLOGY CONTRACTOR SHALL REMOVE ALL PRIMEX HARDWARE AND ANTENNA(S) FROM EXISTING SYSTEM.

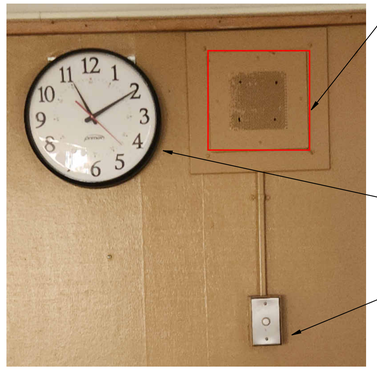
*INTEGRATOR IS RESPONSIBLE FOR INCLUDING ANY/ALL DEVICES, CABLES, ADAPTERS, LICENSES, AND ACCESSORIES TO PROVIDE COMPLETE AND FUNCTIONAL SYSTEMS REGARDLESS OF WHETHER ALL COMPONENTS ARE INDICATED ON PROJECT DRAWINGS. ANY INCOMPATIBILITY BETWEEN DEVICES OR INCORRECT MODEL NUMBERS MUST BE NOTED BEFORE BIDS ARE RECEIVED, OTHERWISE, THE INTEGRATOR WILL BE RESPONSIBLE FOR PROVIDING A COMPLETE, FUNCTIONAL, TURN-KEY SYSTEM WITHOUT ADDITIONAL COMPENSATION.



IP CLOCK & PAGING CABLING DETAIL

SCALE: NONE

CLOCK & PAGING EQUIPMENT SCHEDULE				
KEY #	DESCRIPTION	MANUFACTURER	PART #	COMMENTS
1	NETWORK SWITCH			USE EXISTING NETWORK SWITCH EQUIPMENT. (1) NEW NETWORK SWITCH PER IDF MAY BE REQUIRED. PROVIDED BY OWNER / EXISTING.
3	PATCH PANEL			USE EXISTING PATCH PANELS AS NECESSARY. (1) NEW PATCH PANEL PER IDF MAY BE REQUIRED. PROVIDED BY OWNER / EXISTING.
4	INFORMACAST SOFTWARE & SERVER			PROVIDE ALL REQUIRED INFORMACAST LICENSES & SERVER.
5	SURFACE MOUNT BOX			REFER TO FACEPLATE & SURFACE BOX SCHEDULE
6	SURFACE RACEWAY - 3/4"	WIRE MOLD		WIRE MOLD SHALL BE USED ON AN AS-NEEDED BASIS WHERE PATCH CABLE IS VISIBLE.
7	POE+ INDOOR IP SPEAKER WITH LCD DISPLAY, LED FLASHERS, AND TALKBACK MICROPHONE	ATLASIED	IP-SDMF	
8	IP-SDMF SURFACE MOUNT HARDWARE	ATLASIED	IP-SEST-SD	
9	POE+ INDOOR LCD CLOCK DUAL SIDED LCD	ATLASIED	IP-DD	
10	POE+ INDOOR WALL MOUNT IP HORN SPEAKER WITH LCD DISPLAY	ATLASIED	IP-SDH	
11	WALL PLATE PUSH BUTTON SWITCH, MOMENTARY CONTACT CLOSURE	ATLASIED	WPD-SWM	
12	WIRE GUARD - 18" X 14.75" X 6"	AMERICAN TIME	G2056	WIRE GUARD SHALL BE USED ON ATLASIED END POINTS IN GYMNASIUM (QTY. 2)
13	POE+ INDOOR LCD ENDPOINT WITH TALKBACK MICROPHONE AND LED FLASHER	ATLASIED	IP-DMF	
14	SURFACE MOUNT ENCLOSURE FOR IP-DMF	ATLASIED	IP-SEC-DM	
15	IP TO ANALOG GATEWAY	ATLASIED	IP-ZCM	
16	PAGING AMPLIFIER	BOGEN	V250	
17	PAGING SPEAKER - SURFACE	ATLASIED	VP14MB	USE APPROPRIATE TAP WATTAGE FOR A COMFORTABLE LISTENING LEVEL TO HEAR ANNOUNCEMENTS IN LOUD CORRIDORS.
18	PAGING SPEAKER - CEILING	ATLASIED	FD70W	USE APPROPRIATE TAP WATTAGE FOR A COMFORTABLE LISTENING LEVEL TO HEAR ANNOUNCEMENTS IN LOUD CORRIDORS.
19	PAGING CONSOLE	ATLASIED	IP-CONSOLE-GH	
B	PATCH CORD			REFER TO DATA CABLE SCHEDULE.
C	CATEGORY CABLE			REFER TO DATA CABLE SCHEDULE. INCLUDE MINIMUM 15FT SERVICE LOOP.
D	CABLE - 18/2 AWG/CONDUCTOR	BELDEN	6300FC	
L	LINE CABLE	BELDEN	9451P	CONNECTORS AS REQUIRED FOR APPLICATION. NEUTRIK NP[2/3]X-BAG FOR TS/TRS.
S	SPEAKER CABLE	KRAMER	6500UE TO 6200UE	SELECT GAUGE AS NEEDED TO KEEP SYSTEM LOSS BELOW 2 DECIBELS.



CLOCK & PAGING SPEAKER DEMOLITION & INSTALL NOTES

SCALE: NONE

TECHNOLOGY NOTES SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND ARE PART OF A SEPARATE PROJECT #23-650.019

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
REGISTERED ARCHITECT

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02-04-2026
ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE
MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
TECHNOLOGY DETAILS - CLOCK & PAGING - FOR REFERENCE ONLY

DATE
JANUARY 9, 2026

SHEET NUMBER
T 402
23-638.00

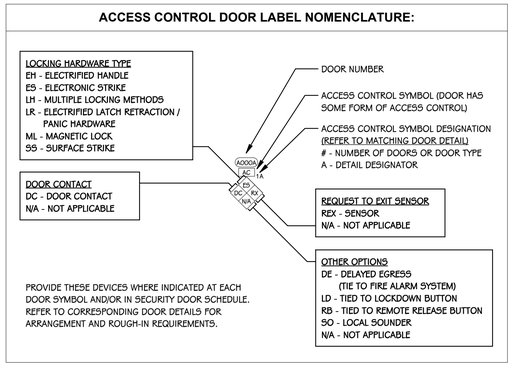
ACCESS CONTROL DOOR SCHEDULE

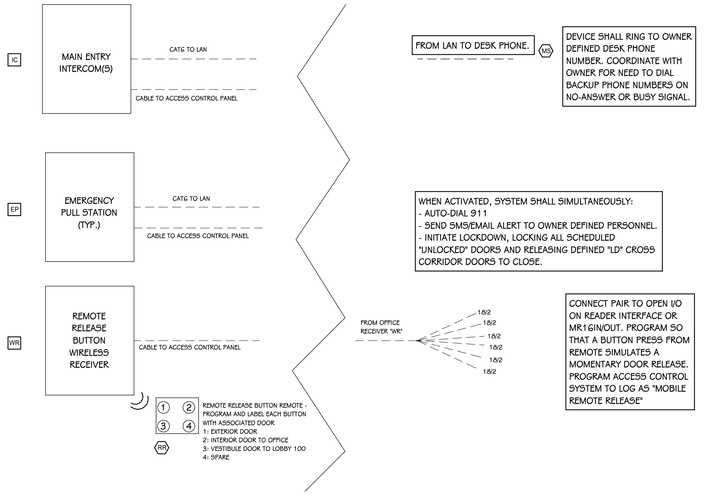
NUMBER	ACCESS CONTROLS	SECURITY INFO				
DOOR	CARD READER	LOCKING HARDWARE TYPE	OTHER	DOOR DETAIL #	PROGRAMMING NOTES	COMMENTS
A12A	Yes	ES	N/A	1A	1, 2, 5	REINSTALL EXISTING CARD READER.
B6A	Yes	ES	RB	1A	1, 2, 3, 4, 5	CARD READER AND RELEASE BUTTON ARE EXISTING.
B15A	No	ES	N/A	1A	1, 6	
B15B	Yes	ES	RB	1A	1, 2, 3, 4, 5	CARD READER AND RELEASE BUTTON ARE EXISTING.
C11	Yes	ES	LD	1A	1, 2, 5	
D13A	Yes	SS	LD	2C	1, 2, 5	
D13B	Yes	SS	LD	2C	1, 2, 5	
Grand total: 7						

PROGRAMMING NOTES LEGEND:
1.) DOOR NORMALLY LOCKED VIA ACCESS CONTROL SYSTEM.
2.) PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY UNLOCKS ELECTRIFIED HARDWARE AND ALLOWS ACCESS.
3.) UPON ACTIVATION OF RELEASE BUTTON TIED THROUGH THE ACCESS CONTROL SYSTEM, THE ELECTRIFIED HARDWARE MOMENTARILY UNLOCKS AND ALLOWS ACCESS.
4.) UPON ACTIVATION OF RELEASE VIA INTERCOM SYSTEM, A RELAY TO THE ACCESS CONTROL PANEL WILL MOMENTARILY UNLOCK ELECTRIFIED HARDWARE, ALLOWING ACCESS.
5.) DURING THE EVENT OF A LOCKDOWN, ELECTRIFIED HARDWARE REVERTS TO A LOCKED STATE, ONLY ALLOWING THOSE WITH CREDENTIALS TO UNLOCK THE ELECTRIFIED HARDWARE UNTIL LOCKDOWN IS DEACTIVATED.
6.) DOOR SHALL HAVE ELECTRONIC HARDWARE TO ALLOW SCHEDULING.

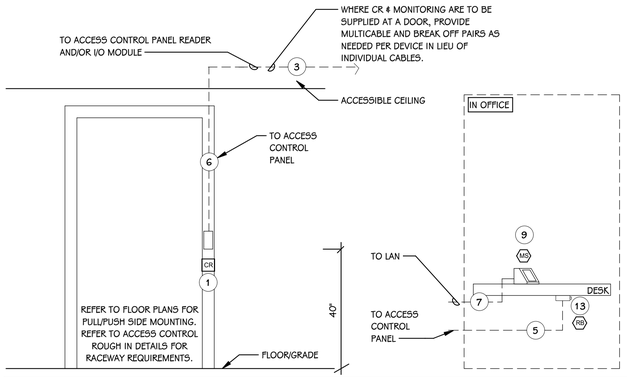
STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
NO. 1301071737
LICENSED ARCHITECT

ACCESS CONTROL DOOR LABEL NOMENCLATURE:





INTERCOM AND EMERGENCY PULL STATION RISER
SCALE: NONE



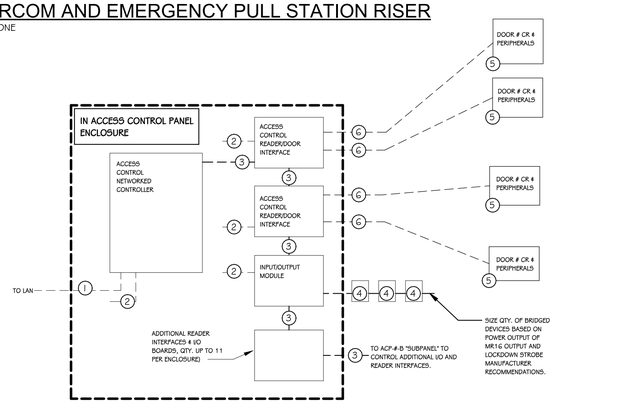
GENERAL NOTES APPLY TO ALL LV CABLE*

- ALL CABLE SHALL BE PLENUM RATED IN PLENUM SPACE.
- CABLES UTILIZING WIEGAND COMMS SHALL NOT EXCEED 500FT TO ACCESS CONTROL PANEL.
- CABLES UTILIZING OSDP SHALL NOT EXCEED 2000FT.
- CABLE SIZING SHALL BE VERIFIED PRIOR TO INSTALLATION AND UPSIZED AS NECESSARY TO ELIMINATE SIGNAL LOSS.
- CABLES SHALL BE RUN IN CONTINUOUS OR NON-CONTINUOUS CABLE MANAGEMENT SYSTEMS. FREE-RUN CABLING IS NOT ACCEPTABLE ANYWHERE. ZIP TIES, ELECTRICAL TAPE, OR OTHER SIMILAR ADHESIVES ARE NOT ACCEPTABLE.
- WHERE IN EXPOSED AREAS (E.G. UNDER DESK, ALONG COUNTERTOP), CABLES SHALL BE RUN IN MESH CABLE SLEEVE (TECHFLEX F6N2.00-25-BLACK, CUT TO SIZE).
- ALL DEVICES THAT CONTROL DOOR HARDWARE SHALL BE CABLED TO INTERFACE THROUGH THE ACCESS CONTROL PLATFORM AND NEVER BE DIRECTLY CONNECTED TO THE LOCK POWER.

*SEE COPPER CABLE DETAIL AND SPECIFICATIONS FOR REQUIREMENTS AND CONDITIONS.

SECURITY END OF LINE DEVICE & CABLING SCHEDULE

KEY #	DESCRIPTION	MANUFACTURER	PART #	COMMENTS
1	CARD READER - MULLION			USE EXISTING CARD READER.
3	CABLE - MULTICABLE	BELDEN	6516AFJ ACCESS CONTROL	USE WHEN DOOR REQUIRES CR AND ANY OTHER DEVICE. OTHERWISE, SEE BELOW CABLES.
5	CABLE - 18/4 AWG/CONDUCTOR	BELDEN	6341FE	UPSIZE CABLE AS REQUIRED TO ELIMINATE SIGNAL LOSS.
6	CABLE - 18/6 AWG/CONDUCTOR	BELDEN	6304FE	UPSIZE CABLE AS REQUIRED TO ELIMINATE SIGNAL LOSS.
7	CABLE - INTERCOM MASTER STATION			EXISTING.
9	DEVICE - INTERCOM MASTER STATION	N/A	OWNER'S DESK PHONE	COORDINATE WITH OWNER TO PROGRAM PHONES FOR INTERCOM DIALING AND DOOR RELEASE THROUGH ACP.
13	DEVICE - RELEASE BUTTON MOUNTED UNDER DESK	ALARM CONTROLS	TS-1B	TIE INTO EXISTING RELEASE BUTTON. IF NO RELEASE BUTTON EXISTS, PROVIDE (1) NEW RELEASE BUTTON IN MAIN OFFICE B1.

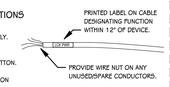


	DEVICE	MANUFACTURER/PART #	NOTES
1	CATEGORY CABLE	SEE SPEC 27 1513	PROVIDED BY CONTRACTOR RESPONSIBLE FOR SECTION 27 1513.
2	18AWG/2C	SEE SECURITY DEVICE AND CABLING CHART	12-24 VDC CONNECTION TO POWER DIST. MODULE/POWER SUPPLY
3	RS-485	BELDEN 82841	PROVIDE RS-485 LOOP TO CONNECT CONTROLLER TO MAX. NUMBER OF SUPPORTED DOWNSTREAM DEVICES.
4	LOCKDOWN DEVICE	SEE SECURITY DEVICE AND CABLING CHART FOR PART #	EXACT LAYOUT AND QTY. OF EACH DEVICE PER MODULE SHALL BE SIZED, CONFIGURED, AND SUPPLIED TO SUPPORT # OF DEVICES ON PLANS.
5	CR, RX, DC, LD, RB, & OTHER CONTROL INTERFACES		
6	MULTICONDUCTOR CABLE		

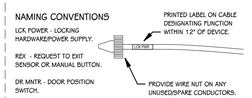
COORDINATE FAIL-SAFE VS. FAIL-SECURE LOCK CONNECTIONS IN COMPLIANCE WITH FIRE CODE AND COORDINATED WITH PROGRAMMING NOTES ON ACCESS CONTROL SCHEDULE.

ACCESS CONTROL PANEL AND INTERFACE GENERAL WIRING DIAGRAM
SCALE: NONE

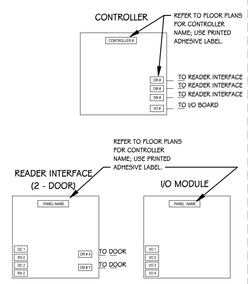
AC CABLES AT DEVICE



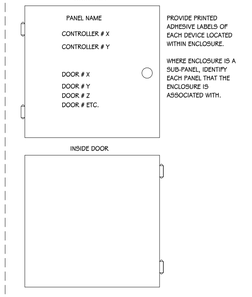
AC CABLES AT PANEL



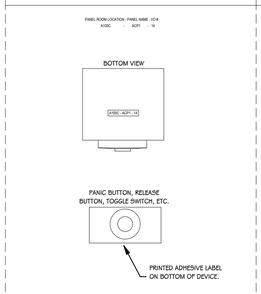
PANEL INTERIOR LABELING



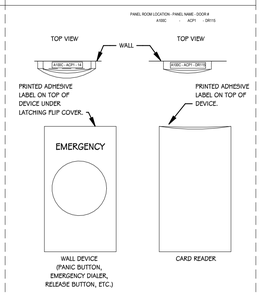
PANEL EXTERIOR LABELING



UNDER DESK DEVICE LABELING



WALL DEVICE LABELING



TYPICAL SECURITY DEVICE LABELING DETAIL
SCALE: NONE

ACCESS CONTROL NOTES:
- ALL TIMES LISTED BELOW ARE APPROXIMATES; FINAL PROGRAMMED TIMES SHALL BE COORDINATED WITH OWNER.

- COORDINATE DOOR UNLOCK AND LOCK SCHEDULE WITH OWNER. AT MINIMUM, PROVIDE SCHEDULED UNLOCK FOR THE FOLLOWING:
  - NORMAL SCHOOL START (E.G. 7:30AM-8:00AM UNLOCK)
  - DELAYED SCHOOL START (E.G. TWO HOUR DELAY)
  - HALF DAY SCHEDULE
  - NON-SCHOOL DAY
  - EVENT PROGRAMMING x3 (E.G. THREE SEPARATE EVENT TEMPLATES THE OWNER MAY DESIRE, SUCH AS A BASKETBALL OR VOLLEYBALL GAME).
  - LOCKDOWN (OVERRIDES ALL SCHEDULES, SETS ALL DOORS TO LOCKED, AND RESTRICTS CARD ACCESS TO AN "EXECUTIVE PRIVILEGE" ROLE - E.G. SCHOOL RESOURCE OFFICER, DISTRICT ADMIN, AND OTHERS THE OWNER DEEMS ACCEPTABLE.

- REFER TO DRAWINGS FOR CARD READER LOCATIONS, DOORS REQUIRING READ IN/READ OUT CREDENTIALING REQUIREMENTS.

- REFER TO ELECTRICAL DRAWINGS AND COORDINATE WITH ELECTRICAL CONTRACTOR FOR SEQUENCING ACCESS CONTROL SYSTEM WITH AUTOMATIC DOOR OPERATORS. DOORS WITH AUTOMATIC OPERATORS SHALL NOT OPERATE UNLESS THE ACCESS CONTROL PLATFORM HAS SET THE DOOR TO "UNLOCKED", OR AN APPROPRIATE ACCESS CREDENTIAL HAS BEEN PRESENTED.

- REFER TO ELECTRICAL DRAWINGS AND COORDINATE WITH FIRE ALARM CONTRACTOR FOR ALL DOORS REQUIRING INTERFACE WITH FIRE ALARM, E.G. DOORS NOTED TO FAIL SAFE UPON SMOKE/FLOW ACTIVATION. MANUAL FIRE PULL STATIONS SHALL NOT UNLOCK ANY DOORS.

- REFER TO ELECTRICAL DRAWINGS AND COORDINATE WITH FIRE ALARM CONTRACTOR FOR REQUIRED RELAYS TO RELEASE MAGNETICALLY HELD DOORS UPON ACTIVATION OF LOCKDOWN.

- REFER TO ARCHITECTURAL DOOR SCHEDULE AND SPECIFICATION SECTION 08 "DOOR HARDWARE" FOR COORDINATING LOCK POWER FOR ELECTRIFIED HARDWARE (I.E. ELECTRIC STRIKES, LATCH RETRACTION, ELECTRIFIED TRIM/HANDLE, MAGLOCKS, ETC.), INCLUDING QUANTITY OF ELECTRIFIED HARDWARE PER DOOR. PROVIDE ADEQUATE POWER SUPPLIES TO POWER ELECTRIFIED HARDWARE ASSOCIATED WITH EACH ACCESS CONTROL PANEL AT FULL CAPACITY (E.G. IF ACP-2B IS ONLY DESIGNED TO INTERFACE WITH 4 DOORS BUT CAN BE SIZED TO 12, PROVIDE ENOUGH POWER SUPPLY CAPACITY TO POWER ADDITIONAL 8 DOORS).

- ALL ACCESS CONTROL WORK DONE PERTAINING TO ELEVATORS SHALL BE COORDINATED WITH THE ELEVATOR CONTRACTOR FOR CODE COMPLIANCE AND INTERFACE WITH ELEVATOR CONTROLLER.

TowerPinkster
Architecture - Engineering - Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02-04-2026
ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS

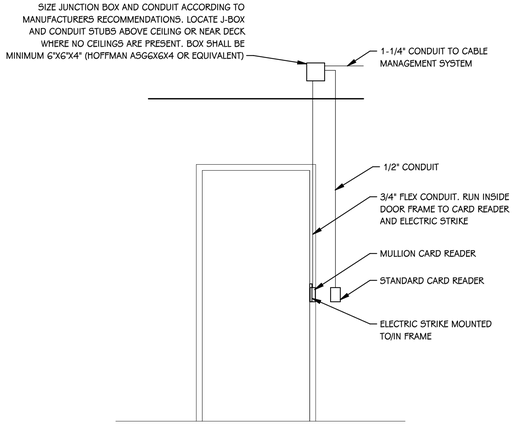
Kalamazoo, Michigan

SHEET TITLE
ACCESS CONTROL DETAILS - DOOR ROUGH-IN & SCHEDULE

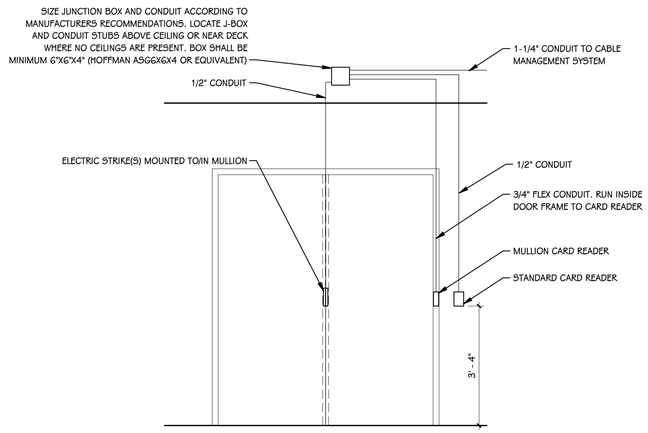
DATE
JANUARY 9, 2026

SHEET NUMBER
T 441
23-638.00

STATE OF MICHIGAN
BETHANY MICHELLE GIBSON
ARCHITECT
No. 1301071737
LICENSED ARCHITECT



1A / T 442 AC SINGLE DOOR WITH STRIKE
1/2" = 1'-0"



2C / T 442 AC DOUBLE DOOR WITH MULLION STRIKES
1/2" = 1'-0"

TowerPinkster
Architecture · Engineering · Interiors
TOWERPINKSTER.COM
© 2026 ALL RIGHTS RESERVED

ADDENDUM #2 02-04-2026
ISSUED FOR DATE

PROJECT TITLE
NORTHGLADE
MONTESSORI SCHOOL

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
ACCESS CONTROL ROUGH-IN DETAILS

DATE
JANUARY 9, 2026

A2
SHEET NUMBER
T 442

SECTION 00 6325 - SUBSTITUTION DURING CONSTRUCTION REQUEST FORM

1.1 INTRODUCTORY INFORMATION

A. Date: _____

B. Requesting substitution of _____

C. As specified in Section _____

D. Requested Substitute Product: _____

1.2 SUBMITTING PARTY'S STATEMENT

A. Circle "Y" for yes and "N" for no for each of the following statements and submit supporting data. Indicate impact for all statements below answered as no, with supporting data:

1. (Y) (N) Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. (Y) (N) Requested substitution does not require extensive revisions to the Contract Documents.
3. (Y) (N) Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. (Y) (N) Substitution request is fully documented and properly submitted in accordance with "Product Substitution" and "Submittals" Articles in Division 01 Section "Product Requirements."
5. (Y) (N) Requested substitution will not adversely affect Contractor's Construction Schedule.
6. (Y) (N) Requested substitution has received necessary approvals of authorities having jurisdiction.
7. (Y) (N) Requested substitution is compatible with other portions of the Work.
8. (Y) (N) Requested substitution has been coordinated with other portions of the Work.
9. (Y) (N) Requested substitution provides specified warranty.

B. I hereby certify that the above statements are true.

_____
Submitter's signature

© 2025 Tower Pinkster Titus Associates - All Rights Reserved

1.3 CONTRACTOR'S STATEMENT

A. I have reviewed this substitution request and am in agreement with the information presented and statements made. This proposal is complete, and there will be no further charges to the Owner as a result of the acceptance of this substitution.

_____

Contractor's signature

END OF DOCUMENT 00 6325

© 2025 Tower Pinkster Titus Associates - All Rights Reserved

SECTION 00 6325 - SUBSTITUTION DURING CONSTRUCTION REQUEST FORM

1.1 INTRODUCTORY INFORMATION

A. Date: 2/2/2026

B. Requesting substitution of Special-Lite Aluminum Flush Door - Entrance Door System

C. As specified in Section 08 4113

D. Requested Substitute Product: SL-16S Smooth Aluminum Flush Door

1.2 SUBMITTING PARTY'S STATEMENT

A. Circle "Y" for yes and "N" for no for each of the following statements and submit supporting data. Indicate impact for all statements below answered as no, with supporting data:

1. (Y) Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. (Y) Requested substitution does not require extensive revisions to the Contract Documents.
3. (Y) Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. (Y) Substitution request is fully documented and properly submitted in accordance with "Product Substitution" and "Submittals" Articles in Division 01 Section "Product Requirements."
5. (Y) Requested substitution will not adversely affect Contractor's Construction Schedule.
6. (Y) Requested substitution has received necessary approvals of authorities having jurisdiction.
7. (Y) Requested substitution is compatible with other portions of the Work.
8. (Y) Requested substitution has been coordinated with other portions of the Work.
9. (Y) Requested substitution provides specified warranty.

B. I hereby certify that the above statements are true.

Jake Barnett @ The Eisen Group

Submitter's signature

Ok to use Special-Lite.
Jennifer Swan, TowerPinkster
2/3/2026

© 2025 Tower Pinkster Titus Associates - All Rights Reserved

1.3 CONTRACTOR'S STATEMENT

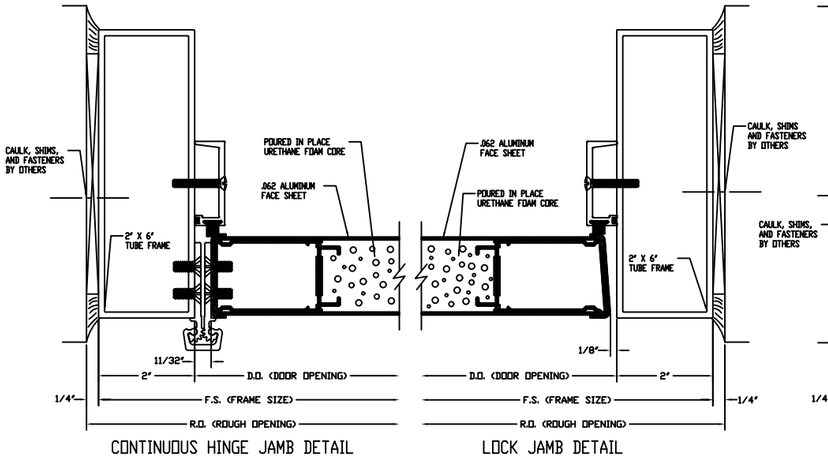
A. I have reviewed this substitution request and am in agreement with the information presented and statements made. This proposal is complete, and there will be no further charges to the Owner as a result of the acceptance of this substitution.

_____

Contractor's signature

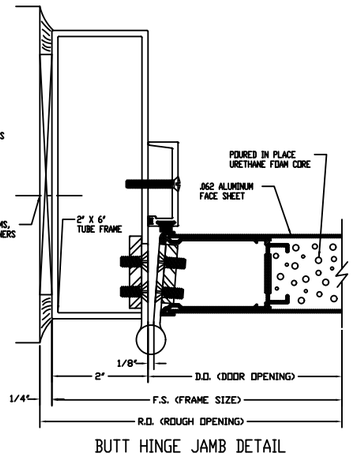
END OF DOCUMENT 00 6325

© 2025 Tower Pinkster Titus Associates - All Rights Reserved

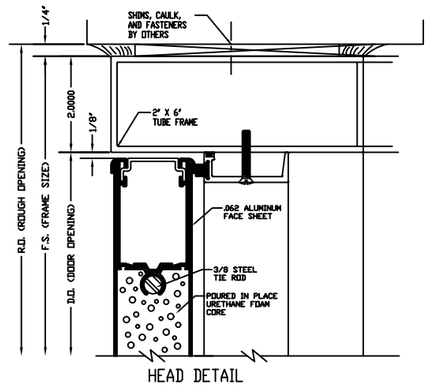


CONTINUOUS HINGE JAMB DETAIL

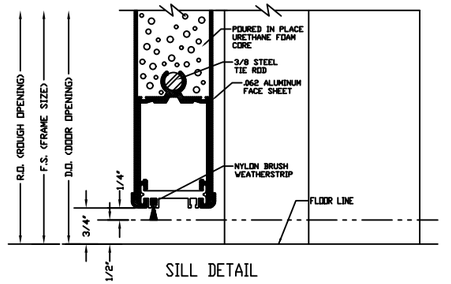
LOCK JAMB DETAIL



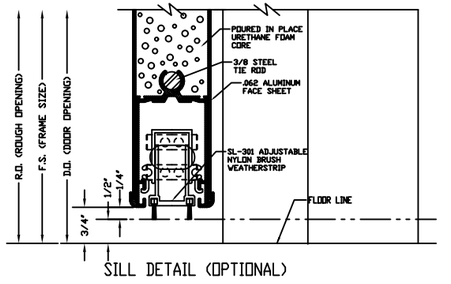
BUTT HINGE JAMB DETAIL



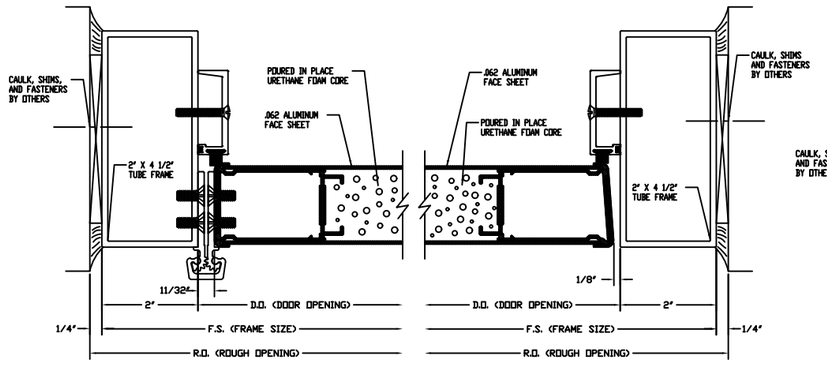
HEAD DETAIL



SILL DETAIL

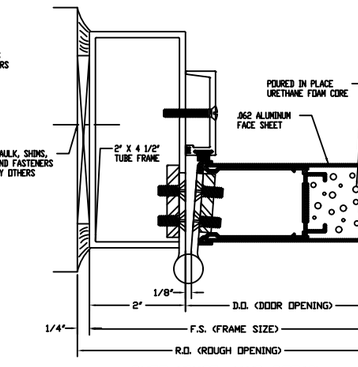


SILL DETAIL (OPTIONAL)

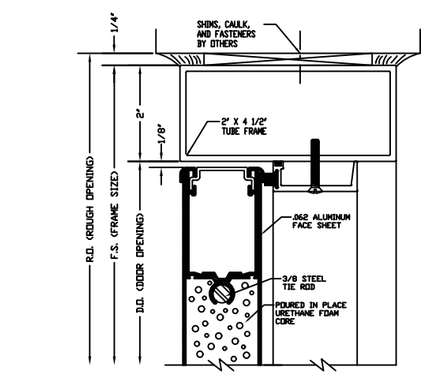


CONTINUOUS HINGE JAMB DETAIL

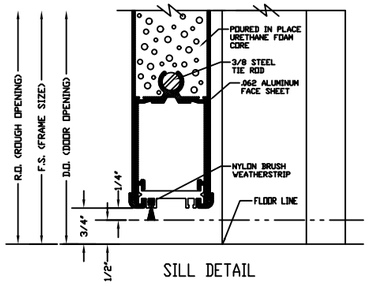
LOCK JAMB DETAIL



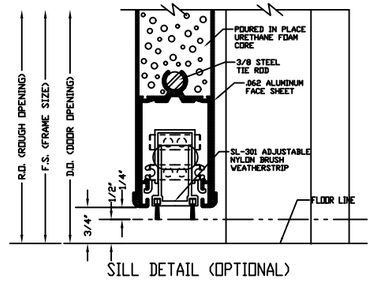
BUTT HINGE JAMB DETAIL



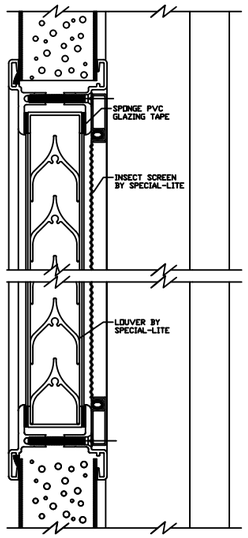
HEAD DETAIL



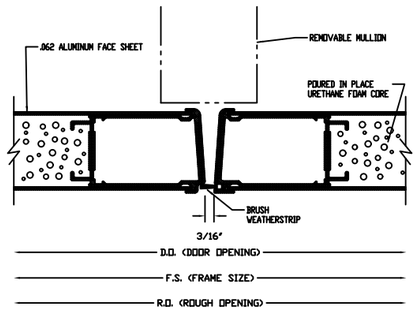
SILL DETAIL



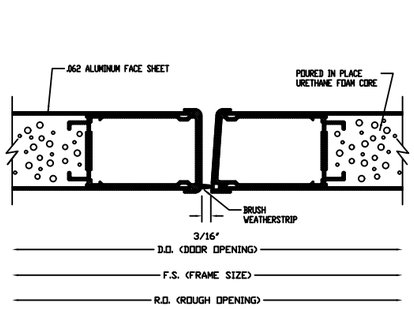
SILL DETAIL (OPTIONAL)



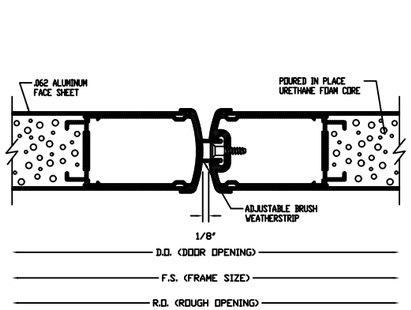
LOUVER WITH INSECT SCREEN



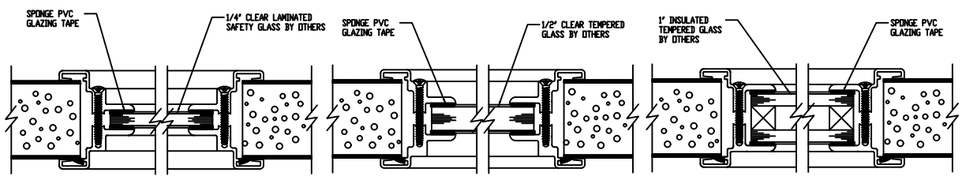
MEETING STILES RIM PANICS (STANDARD)



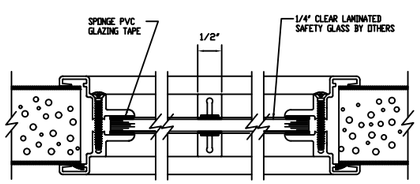
MEETING STILES MORTISE LOCK



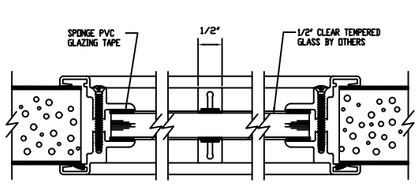
MEETING STILES (OPTIONAL)



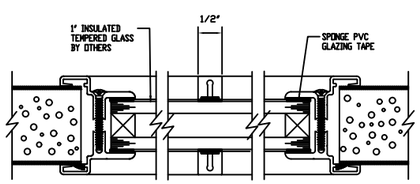
1/4" GLASS VISION LITE KIT DETAIL — 1/2" GLASS VISION LITE KIT DETAIL — 1" INS. GLASS VISION LITE KIT DETAIL



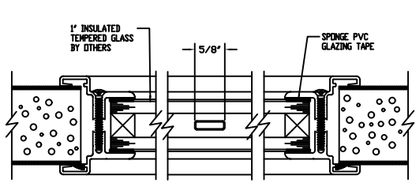
1/4" GLASS VISION LITE KIT DETAIL WITH EXTERNAL MUNTIN



1/2" GLASS VISION LITE KIT DETAIL WITH EXTERNAL MUNTIN



1" INS. GLASS VISION LITE KIT DETAIL WITH EXTERNAL MUNTIN



1" INS. GLASS VISION LITE KIT DETAIL WITH INTERNAL MUNTIN

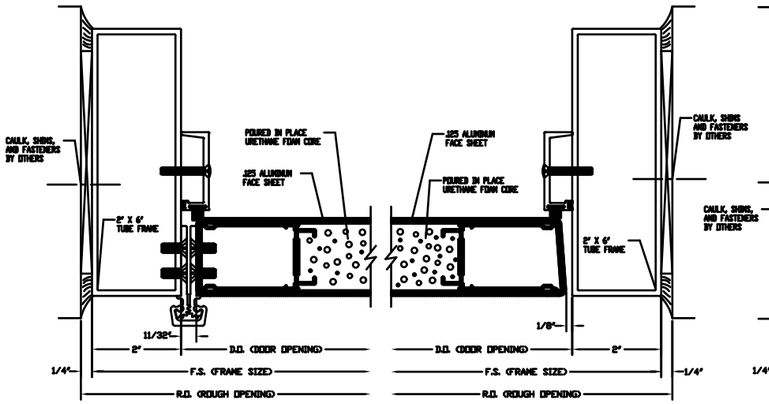
Special-Lite®
ENGINEERED ARCHITECTURAL SOLUTIONS

SPECIAL-LITE, INC.
860 South Williams Street
P.O. BOX 6
DECATUR, MI 49045
WWW.SPECIAL-LITE.COM

SL-16 ALUMINUM FLUSH DOOR

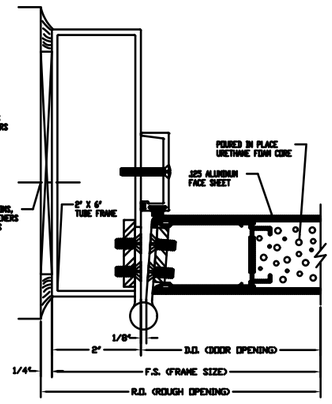
DRAWN BY: JMM			
REVISION			
A	4/3/17	C	
B	1/9/19	D	

DATE: 4/3/2017 | SHEET NO. 1 OF 1 | FILE: SL16DETAILS.dwg

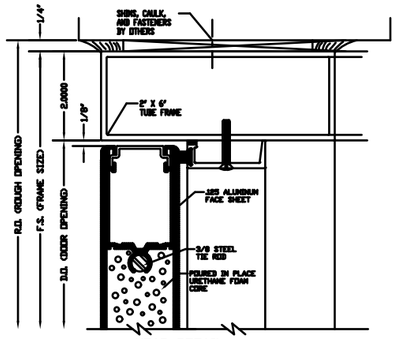


CONTINUOUS HINGE JAMB DETAIL

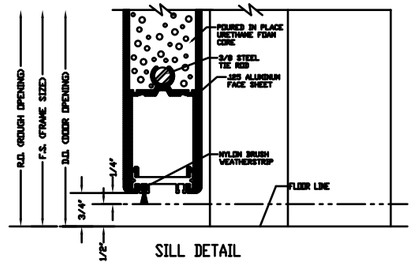
LOCK JAMB DETAIL



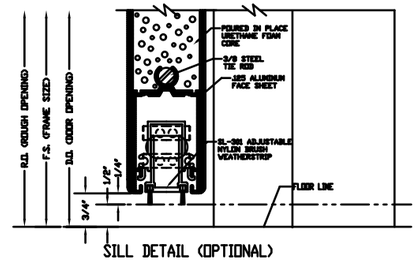
BUTT HINGE JAMB DETAIL



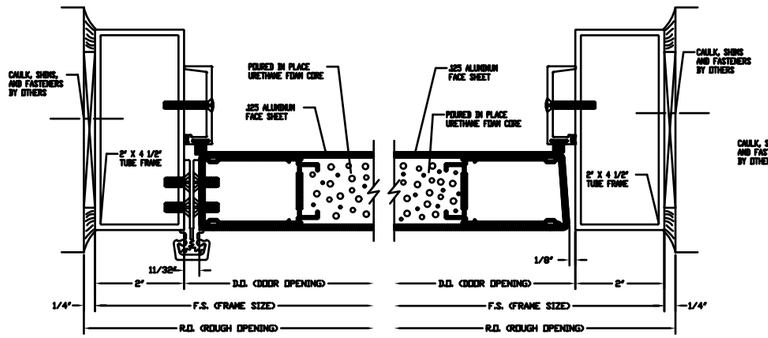
HEAD DETAIL



SILL DETAIL

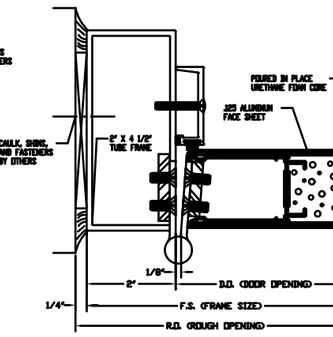


SILL DETAIL (OPTIONAL)

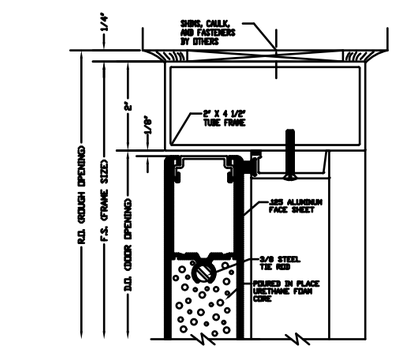


CONTINUOUS HINGE JAMB DETAIL

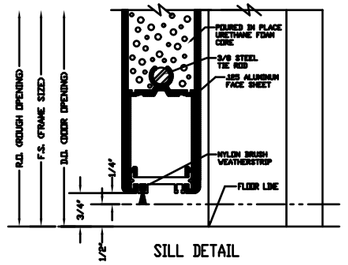
LOCK JAMB DETAIL



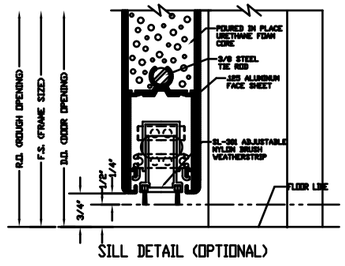
BUTT HINGE JAMB DETAIL



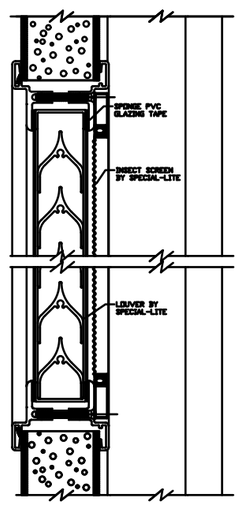
HEAD DETAIL



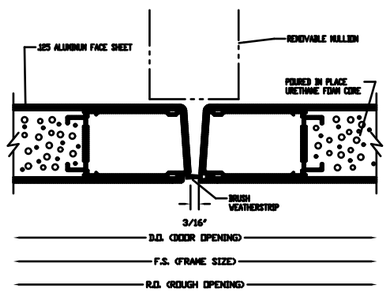
SILL DETAIL



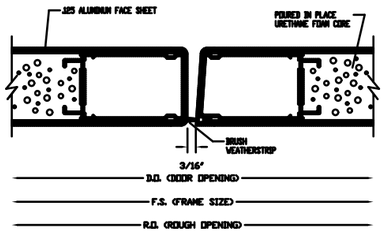
SILL DETAIL (OPTIONAL)



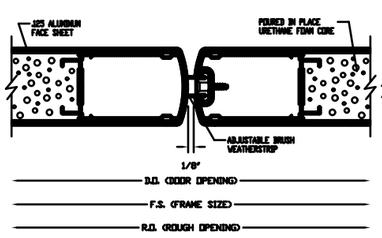
LOUVER WITH INSECT SCREEN



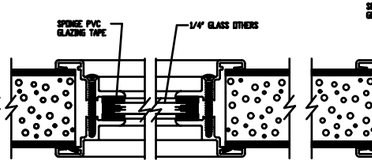
MEETING STILES RIM PANICS (STANDARD)



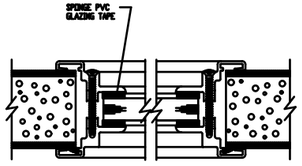
MEETING STILES MORTISE LOCK



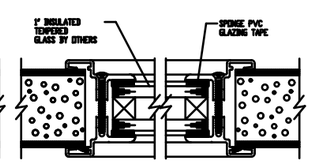
MEETING STILES (OPTIONAL)



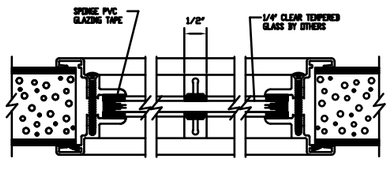
1/4" GLASS VISION LITE KIT DETAIL



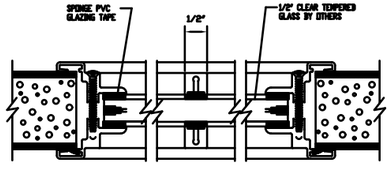
1/2" GLASS VISION LITE KIT DETAIL



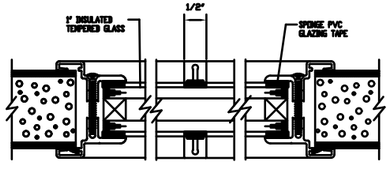
1" INS. GLASS VISION LITE KIT DETAIL



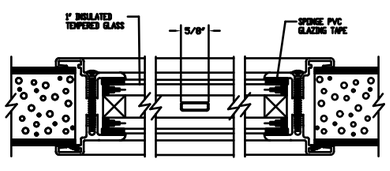
1/4" GLASS VISION LITE KIT DETAIL
WITH EXTERNAL MUNTIN



1/2" GLASS VISION LITE KIT DETAIL
WITH EXTERNAL MUNTIN



1" INS. GLASS VISION LITE KIT DETAIL
WITH EXTERNAL MUNTIN



1" INS. GLASS VISION LITE KIT DETAIL
WITH INTERNAL MUNTIN

Special-Lite®
Engineered Architectural Solutions

SPECIAL-LITE, INC.
850 South Williams Street
P.O. BOX 6
DECATUR, MI 49045
WWW.SPECIAL-LITE.COM

DRAWN BY: JMM			SL-16 ALUMINUM FLUSH DOOR (.125 SHEET)		
REVISION					
A	6/22/21	C			
B		D	DATE: 6/22/2021	SHEET NO. 1 OF 1	FILE: SL16DETAILS.dwg

SL-16S
Smooth Aluminum Flush Door

Special-Lite®

Blast Resistant | Forced Entry Resistant | Impact Rated | Thermally Efficient

Special-Lite® Aluminum Flush Doors provide an appealing, easy-care solution. They offer a stylish, up-to-date look that is remarkably versatile and well-suited for industrial, institutional, and commercial facilities dominated by moderate to heavy traffic. They are corrosion-resistant, making them a good fit for water treatment facilities or other high-humidity areas.

Our extremely heavy-duty, yet lightweight door panel design integrates the highest quality materials for a durable, secure, and long-lasting door system—saving you time and money long-term!

The SL-16S Smooth Aluminum Flush Door features a smooth aluminum face sheet with two options for door-face thickness to customize the level of protection against impacts. Beyond our stock and special anodized finishes, doors can be painted with one of our standard colors or any custom color to match your facility's aesthetic and functionality.

Key Benefits

- Low maintenance
- Easy to clean and sanitize
- Secure and durable
- Moisture resistance
- Customization

Applications

- Schools and universities
- Restaurants and retail
- Commercial and office
- Parks and recreation
- WTP/WWTP

Door Panel Construction

1. Stiles and rails are rugged one-piece aluminum extrusions with a minimum 2-5/16" depth.
2. Mitered corner joints are reinforced with corner clips adding security and durability.
3. Corner brackets and steel tie rods run the width of the door to provide resilient strength while squaring the structure.
4. Face sheets lock into reglet channels on all four sides.
5. Structural, high-density, injected polyurethane core binds the door panel components together, provides insulation, and won't retain moisture.

CONSTRUCTION		
DOOR PANEL THICKNESS		1-3/4"
FACE SHEET		Smooth face sheet thickness is 0.062" or 0.125".
DOOR SIZE (W X H)	Minimum	0.062" and 0.125" Face Sheet 12" x 12"
	Maximum	0.062" Face Sheet 48" x 120" 0.125" Face Sheet 51-1/2" x 111-1/2"
	Custom	Taller sizes may be available. Contact Special-Lite for availability and details.
STILES & RAILS		Aluminum
CORNER		Mitered corners, aluminum angle reinforcements, and full-width steel tie rods top and bottom.
CORE MATERIAL		Poured-in-place closed-cell polyurethane foam, 5-lb./cubic foot density.
REINFORCEMENTS		Aluminum extrusions are made from 6061 or 6063 aluminum alloys. Sheet and plate conform to ASTM-B209. Bars and tubes meet ASTM-B221.
FINISHES FOR FACE SHEET AND DOOR EDGES		
STOCK FINISHES	Anodized	5555 Clear, 5556 Dark Bronze
SPECIALTY FINISHES	Anodized	5557 Black, 5558 Light Bronze, 5559 Medium Bronze, 5560 Champagne
	Painted	5503 Bone White, 5504 Boysenberry, 5505 Brick Red, 5509 Hartford Green, 5515 Sage Brown, 5517 Seawolf, 5577 Slate Grey, 5578 Light Grey, 5579 Blue, 5580 Black, 5581 Desert Sand, 5583 Military Blue, 5647 Beige, 5649 Red, 5655 Dark Grey, 5656 Crystal, 5657 Champagne, 5658 Light Bronze, 5659 Medium Bronze, 5576 Dark Bronze, 5708 Red Oak, 5709 White Oak, 5710 White Maple, 5712 Redwood
	Painted Match for Wood Grain Stain	5588 Chestnut, 5589 Dark Maple, 5590 Mahogany, 5591 Oak, 5592 Teak, 5593 Walnut, 5650 American Cherry, 5651 Dark Cherry, 5652 Dark Walnut, 5653 Light Maple,
	Custom	Custom color matching is available but adds additional lead time.
CONFIGURATION OPTIONS NOTE: Selections must be compatible with hardware or are subject to change depending on hardware selection, not every stile is compatible with every piece of hardware.		
HINGE STILE	Standard	Square (Continuous Hinges), Bevel (Butt Hinges)
	Optional	Bevel, Radius for Double Acting Doors
LOCK STILE	Standard	Standard Bevel Stile, Standard Meeting Stiles Bevel, Bevel with Integral Brush Weatherstrip
	Optional	Meeting Stiles Radius with Adjustable Astragal Meeting Stiles Bevel and Square Stile for Active and Inactive Leaf Pairs
TOP RAIL		Open Rail, Closed Rail
BOTTOM RAIL		Open Rail, Closed Rail
DOOR BOTTOM	Open Rail	Standard weather bar with nylon brush SL-301 Adjustable Bottom Brush
	Closed Rail	Sliders, Dutch Doors, Applied Sweep
DOOR TOP		Open Rail: Standard Weather Bar
VISION LITE KIT MODELS	Standard	Aluminum Aluminum with Surface Muntins (1/2" or 1-1/4" width)
	Optional	EPDM Gasket Low Profile Beveled Aluminum Securelite Forced-Entry Resistant Aluminum (1/2" or 1" bite)
	Custom	Custom shapes are available, provide drawing.
VISION LITE KIT OPTIONS (Compatible with 1/4" up to 1-1/2" glass)		Square, Double Lite, Half Lite, Surface Muntins, Full Lite, or Narrow Lite
VISION LITE KIT RESTRICTIONS		Minimum spacing from day lite opening: 7" from side, 8" from top, and 12" from bottom Doors must contain at least 50% foam.
GLASS		1/4" Polycarbonate, Tempered, Laminated 1" Tempered, Tempered with Internal Muntins, Privacy Vision Panel 1-3/4" Flush Vision Panel, Privacy Flush Vision Panel

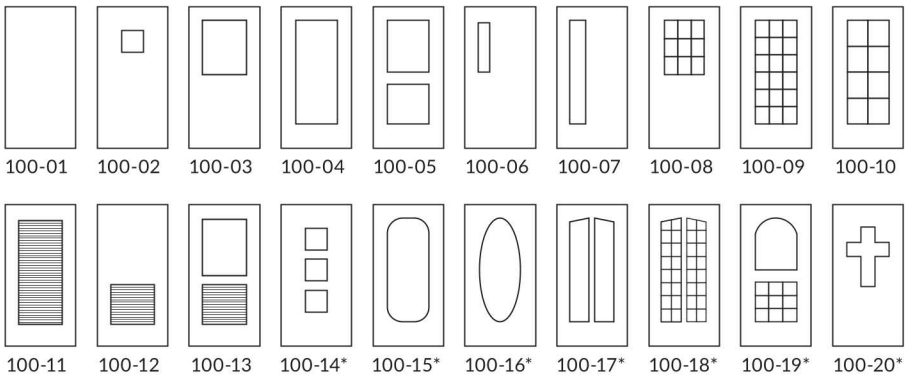
LOUVER MODELS		Aluminum Louvers, Aluminum Louvers with Screen
LOUVER OPTIONS		12" x 12", Double Lite, Half Lite, Full Lite
INFILL ARCHITECTURAL PANELS (In lieu of glass)		1/4" SL-36 Aluminum Panel 1" SL-36 Polyurethane Closed-cell Foam Core Panel
HARDWARE NOTE: Hardware can be supplied and factory installed. Contact Special-Lite for restrictions.		
INSTALLED HARDWARE		Recessed Pulls, Standard Pulls, Standard Push Bars, HD Continuous Gear Hinges, Butt Hinges, Pivots, Closers Stops, Hold Open, Removable Mullions, Aluminum Astragals, Fiberglass Astragals, Aluminum Thresholds, Fiberglass Thresholds, Cylindrical Locks, Mortise Locks, Exit Devices.
		Custom hardware is available, consult with your Rep.
DO NOT SEND (Processing fee for returned hardware)		Mullions, Thresholds, Bottom Brushes, Sweeps, Seals, Astragals, Drip Caps, Surface Door Closers, Surface Door Stops, Seals, Power Supplies, EPT's, Wiring Harnesses, Dust Proof Strikes, Wall Stops
PERFORMANCE		
FLORIDA APPROVALS*		FL9875-R6, FL13789-R3, FL21856-R3, FL27723-R2
TDI APPROVALS*		DR-967
INTRUSION RESISTANCE	Glazed with Makrolon AR	ASTM E2395-GRADE 30 ASTM E1886-2 Impacts (no observable damage) ASTM F1233-CLASS 1
BLAST RESISTANCE*		ASTM F2927-12 6.9 PSI @ 41 PSI-mesc ASTM F2927 Damage Rating (damaged but operable) ASTM F2927 Damage Level: 2 ASTM F1642 Glazing Hazard Rating: Minimal ASTM F1642 Glazing Hazard Level: H2
FIRE RATING		N/A
SMOKE RATING		N/A
U-VALUE (NFRC 100) (Door with thermally-broken framing)	Opaque	U-Factor = 0.33 BTU/hr·ft²·°F
	Glazed	U-Factor = 0.66 BTU/hr·ft²·°F
R-VALUE (Door with thermally-broken framing)	Opaque	R-Value = 3.03 BTU/hr·ft²·°F
	Glazed	R-Value = 1.52 BTU/hr·ft²·°F
AIR LEAKAGE **(NFRC 400, ASTM-E283)**	Opaque Door with Less Than 50% Glass	0.08 cfm/sqft @ 1.57 psf infiltration 0.05 cfm/sqft @ 1.57 psf exfiltration 0.18 cfm/sqft @ 6.24 psf infiltration
STC (ASTM-E90) (Door with thermally-broken framing)		STC = 26 OITC = 26
SUSTAINABILITY		
BUY AMERICA ACT COMPLIANCE		Yes
LEED		Yes
GREENGUARD		GreenGuard Gold
SUPPORT		
WARRANTY		10-Year, Lifetime Limited Warranty
LEAD TIME		Lead times for standard door configurations are 4-6 weeks and subject to change.† Curved lites and panels, custom finishes, and rated configurations have extended lead time. Contact your Rep or Special-Lite for up-to-date lead times.

*Please see configuration sheets for restrictions.

†Expedited Order Program available. See our website for details, program rules, and restrictions. Contact your Rep to apply.

Door Configuration Examples

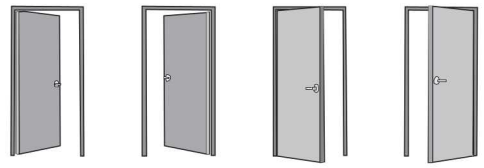
Choose from our standard door configurations or create your own! Need help? We will help you design a durable, high-quality custom solution to suit your needs (Vision Lite Kit locations minimum spacing restrictions apply).



*Curved and complicated configurations may require additional cost and lead times. Contact the factory for project specific additional costs and lead times.

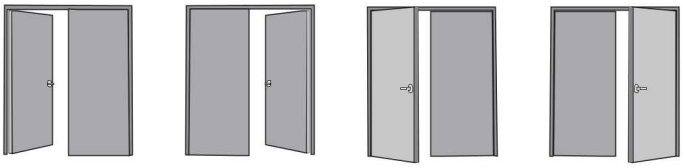
Single Swing Door Handing Chart

From exterior of room or building

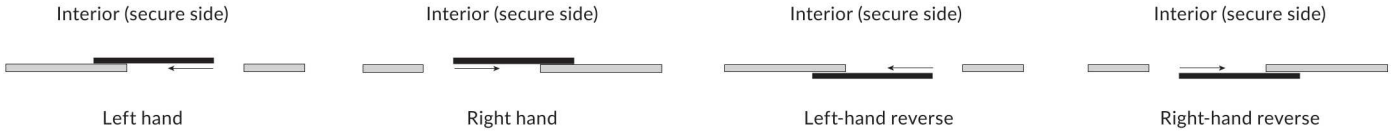


Double Swing Door Handing Chart

From exterior of room or building



Sliding Door Handing Chart



© Special-Lite, Inc.
860 S. Williams St. Decatur, MI 49045
special-lite.com • 800-821-6531

Item 1257-R0
9/24 PDF

Special-Lite®

SL-16 ALUMINUM DOOR TEST RESULTS

Door Panel
Thermal Transmittance, NFRC 102-2010:
U-Factor = 0.47 Btu/hr·ft²·°F
Indoor Air Quality, ASTM-D5116, ASTM-D6607:
GreenGuard, GreenGuard Gold

Door and Aluminum Tube Frame Assembly
Air Leakage, NFRC 400, ASTM-E283
Opaque Swinging Door (< than 50% glass)
0.08 cfm/sqft @ 1.57 psf infiltration
0.05 cfm/sqft @ 1.57 psf exfiltration
0.18 cfm/sqft @ 6.24 psf infiltration
Structural Performance, ASTM E-330
Single Door, 3'4-1/4" x 7'2-1/4" overall size, single point latching
± 160 psf design pressure, pass
Blast Test, ASTM-F2927
6.9 psi @ 41 psi-msec, minimal hazard, damaged but operable

Door and Thermally Broken Aluminum Frame Assembly
Thermal Transmittance, NFRC 100
Opaque Swinging Door (< than 50% glass)
U-Factor = 0.33 Btu/hr·ft²·°F
Commercially Glazed Swinging Entrance Door (> than 50% glass)
U-Factor = 0.66 Btu/hr·ft²·°F
Air Leakage, NFRC 400, ASTM-E283
Opaque Swinging Door (< than 50% glass)
0.01 cfm/sqft @ 1.57 psf
0.02 cfm/sqft @ 6.24 psf
Commercially Glazed Swinging Entrance Door (> than 50% glass)
0.31 cfm/sqft @ 1.57 psf
0.61 cfm/sqft @ 6.24 psf
Sound Transmission, ASTM-E90:
STC = 26, OITC = 26

AF-150 Framing
Tensile Strength, ASTM-D638: 15,900 psi
Tensile Modulus of Elasticity, ASTM-D638: 1.58 x 10^6 psi
Maximum Compressive Strength, ASTM-D695: 15,500 psi
Compressive Modulus of Elasticity, ASTM-D695: 6.7 x 10^5 psi
Flexural Strength, ASTM-D790: 39.3 x 10^3 psi
Flexural Modulus, ASTM-D790: 1.23 x 10^6 psi
Izod Impact, ASTM-D256: 8.1 ft-lb/in
Barcol Hardness, ASTM-D2583: 57
Specific Gravity, ASTM-D792: 1.45 @ 23 °C
Density, ASTM-D792: 1445.6 kg.m^3 @ 23 °C
Coefficient of Linear Expansion, ASTM-D696: 1.26 x 10^{-5} in/in/°F
Short Beam Strength, ASTM-D2344: 3,980 psi
Fastener Withdrawal, ASTM-D1761: 924 lbs
Percent Fiberglass: 60%

DOCUMENT 00 12 10 – SUBSTITUTION REQUEST FORM

TO: _____

Project: NORTHGLADE MONTESSORI MAGNET SCHOOL PROJECT - KALAMAZOO PUBLIC SCHOOLS

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section	Paragraph	Specified Item
23 5216 - 1		Condensing Boilers

Proposed Substitution: Fulton Endura XE 1500

Attach complete technical data including laboratory tests if applicable.

Include complete information changes to Drawings and/or Specifications which proposed substitution require for proper installation.

Fill in Blanks Below, use additional sheets if necessary:

A. Does the substitution affect dimensions shown on Drawings? No

B. Will the undersigned pay for changes to building design, including engineering and detailing costs caused by substitution, if any? No

C. What effect does substitution have on other trades? None

D. Differences between proposed substitution and specified item? Better Warranty

E. Manufacturer's guarantees of proposed and specified items are:

_____ Same ___X___ Different (explain on attachment)

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted by:

_____
Signature
Kyle Nagelkirk
Firm Hedrick Associates
Address 2360 Oak Industrial Drive NE

Grand Rapids, MI 49505
Telephone 616-288-0810

For use by Design Consultant

Accepted
Not Accepted
Accepted as Noted
Received too Late
By Chris Tindall
Date 01/26/26
Remarks _____

Fulton®

ENDURA XE®

Condensing Firetube Hydronic Boiler

399,000 – 6 Million BTU/HR

- **Up to 15:1 Turndown**
- **Flame-by-Wire™ Combustion**
- **Real-Time O_2 Compensation™**

DUPLEX HD HEAVY DUTY STAINLESS STEEL

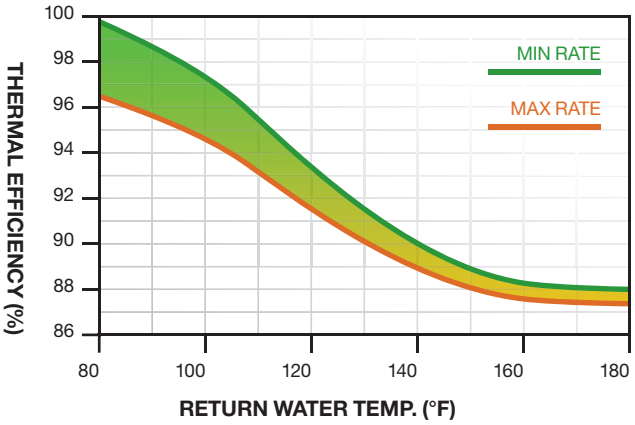
LOW NOx CERTIFIED

HYDROGEN H_2 20% READY

EFFICIENCY UP TO 99%

HEAVY-HITTER FOR ENERGY SAVINGS

Trusted in hundreds of thousands of installations globally, Fulton boilers are built to last and are renowned for exceptional reliability. ENDURA XE® continues this legacy, combining cutting-edge decarbonization technology with the rugged construction that defines Fulton.



Reduce Fuel Costs & Emissions

The ultra-high efficiency heat exchanger and fuel-saving burner reduce carbon emissions by 15% and NOx emissions by 80% compared to conventional boilers.

Simplify Your Installation

Fully electronic combustion controls use Flame-by-Wire™ technology. This installer friendly system is simpler to learn and operate, significantly reducing commissioning time and complexity.

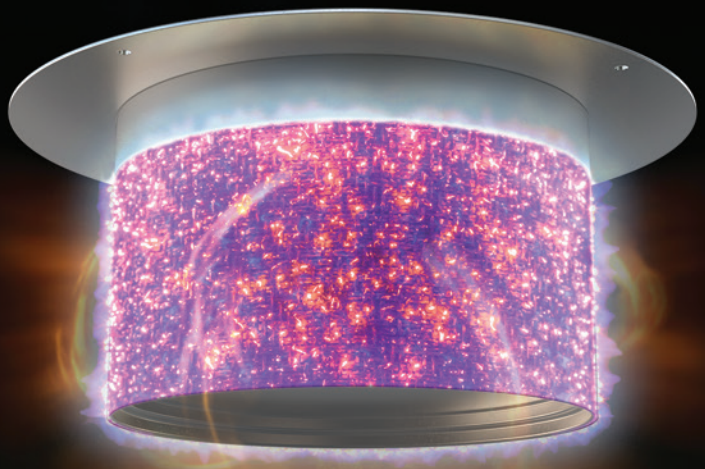
Trusted Long-Life Durability

Firetube architecture is recognized for superior dependability and ease of installation. ENDURA XE envelops tubes within a large volume of water, eliminating costly buffer tanks and primary-secondary piping.

LOW MAINTENANCE RELIABLE BURNER

Fulton combines environmentally friendly low NOx emissions with the rugged durability of industrial-grade equipment. Burner maintenance has never been simpler.

- **Simplified Start-Up & Calibration**
- **Reduce Energy Costs with Enhanced Heat Transfer**
- **Enhanced Woven Burner Built for Lasting Reliability**



★ 5 YEAR ★
BURNER WARRANTY

FIRETUBE TECHNOLOGY

ENDURA XE is engineered and built to the same rugged reliability standards as Fulton's heavy-duty industrial boilers. Superior construction materials and water management make ENDURA XE last longer, even in the most demanding applications.

- **Industrial-Grade Dependability**
- **Resilient Against Scale & Corrosion**
- **Lower Pump Head Requirements**

10 YEAR
HEAT EXCHANGER WARRANTY

LIFETIME
THERMAL SHOCK WARRANTY

Supercharged Heating

ENDURA XE packs more performance into a smaller package, keeping your building efficiently and reliably heated while saving valuable space in the mechanical room.

Upgraded Stainless Steel

Proven 439 and Duplex alloys offer 68 to 160% greater strength than 316L, and are immune to chloride stress corrosion cracking, a catastrophic mode of failure seen with boilers using 304 and 316L.

Long-Lasting Durability

Innovative water baffle technology prevents scale from forming, ensuring a long-lasting and efficient heat exchanger. This maximizes heating comfort and lowers lifetime fuel costs.

PURE® CONTROL

Complexity Simplified

Fulton's powerful yet intuitive PURE® Control delivers sophisticated capabilities through a user-friendly touchscreen. It efficiently sequences up to 10 boilers and eliminates the need for a master boiler or standalone panel. When a boiler is powered off, the plant seamlessly transitions to the next available stage for reliable heating.

- **Outdoor Reset with Setback Mode**
- **Motorized Isolation Valve Control**
- **Variable Speed Pump Control**
- **Saves Energy by Reducing Cycling**
- **Modbus / BACnet Configurable**

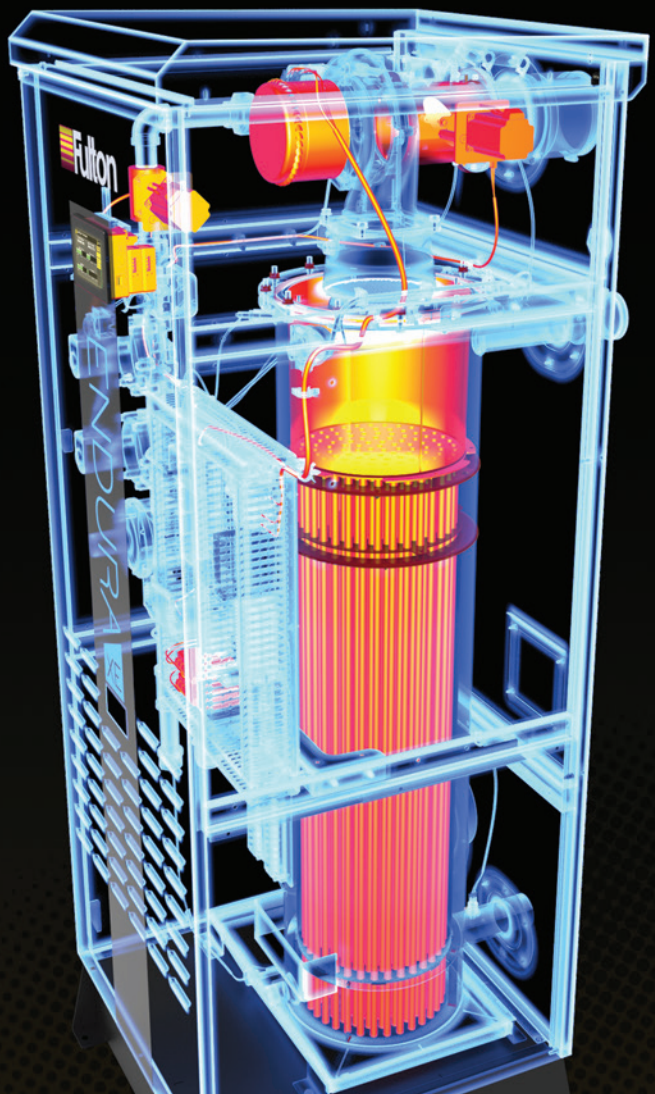
2 YEAR
PARTS WARRANTY

FLAME BY WIRE™

Combustion Technology

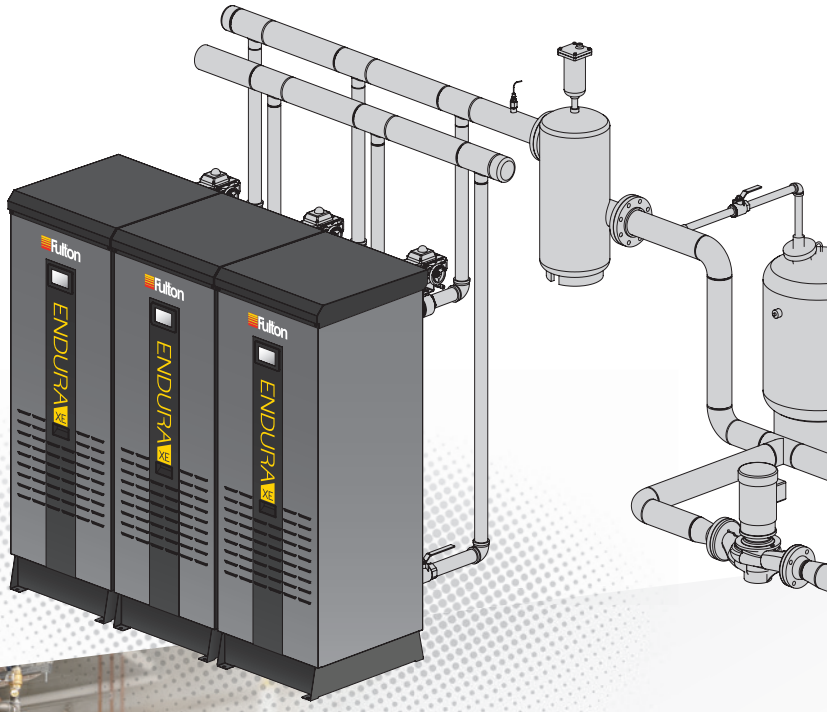
Inspired by advances in automotive and aviation, Flame-by-Wire™ technology replaces the use of conventional pneumatics ("neg-reg") and linkages with independent electronic air and gas valves. Real-time O_2 Compensation™ continuously tunes the burner air-fuel ratio, automatically optimizing for seasonality.

- **Simplifies Start-Up & Maintenance**
- **Maximizes Condensing Operation**
- **Reduces Fuel Bills & Emissions**



VARIABLE PRIMARY FLOW DESIGN

Variable primary flow is a simplified piping method that improves temperature comfort, streamlines installation, and eliminates the need for dedicated boiler pumps. Fuel savings are maximized by directing the lowest temperature water straight to the boiler inlet, avoiding inefficient blending in a primary-secondary manifold.

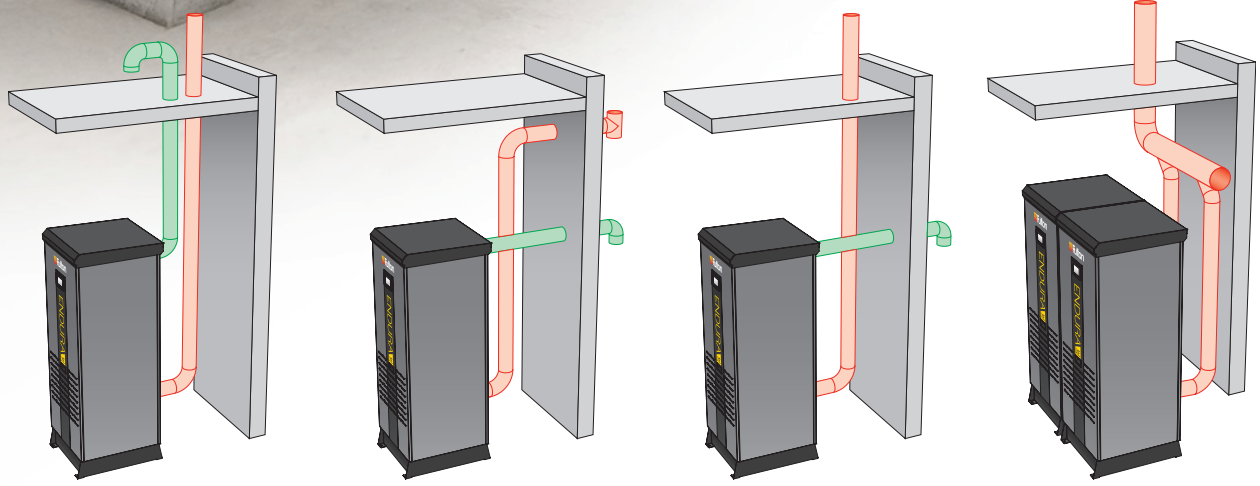


Compact Design

A compact footprint with zero side clearance makes ENDURA XE an excellent choice for both retrofit and new construction, freeing up valuable mechanical room space.

Flexible Venting Arrangements

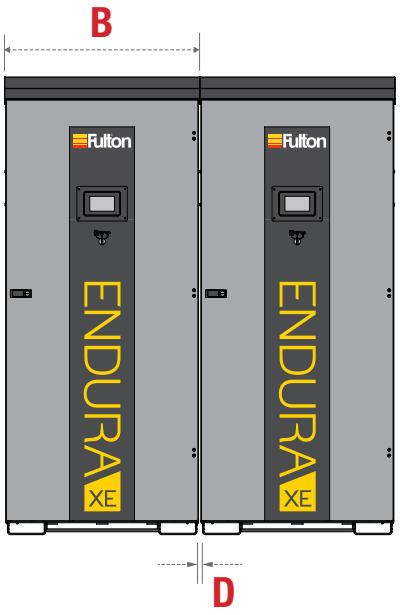
Design supports 16 different venting configurations including sidewall or rooftop, room air or sealed combustion, plastic or stainless flue materials, and manifolded common venting.

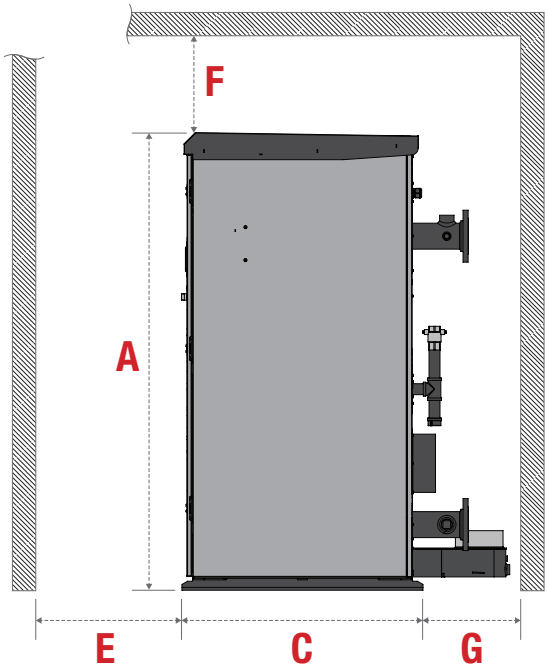


ROOFTOP **SIDEWALL** **MIXED** **COMMON**

SPECIFICATIONS & DIMENSIONS

MODEL EXE-		399	500	650	750	1000	1500	2000	2500	3000	4000	5000	6000
SPECIFICATIONS													
Input Capacity	MBH	399	500	650	750	1,000	1,500	2,000	2,500	3,000	4,000	5,000	6,000
Water Content	GAL	10.4	10.4	17.9	17.9	24.8	24.8	42.4	54.9	54.9	166	166	166
Pressure Drop at 20°F ΔT	PSI	1.2	2.0	1.4	1.9	1.2	2.8	2.3	1.7	2.5	2.6	4.0	5.8
Operating Weight	LBS	537	537	674	674	1,301	1,325	1,779	2,072	2,072	5,740	5,740	5,740
Electrical Requirements	V/PH	120/1	120/1	120/1	120/1	120/1	120/1	120/1	240/1	240/1	460/3	460/3	460/3
AHRI Thermal Efficiency	%	98.0	97.3	96.3	96.0	97.8	97.6	97.5	97.3	97.2	96.8	96.5	96.2
Turndown Ratio		8:1	10:1	13:1	15:1	15:1	15:1	15:1	15:1	15:1	10:1	13:1	15:1
DIMENSIONS													
(A) Height	IN	73.7	73.7	73.7	73.7	79	79	79.3	79.3	79.3	79	79	79
(B) Width	IN	26.3	26.3	26.3	26.3	29.4	29.4	32.8	32.8	32.8	34	34	34
(C) Base Depth	IN	28.9	28.9	28.9	28.9	36	36	41.8	41.8	41.8	103.5	103.5	103.5
CLEARANCES													
(D) Sides	IN	0	0	0	0	0	0	0	0	0	0 & 24	0 & 24	0 & 24
(E) Front	IN	24	24	24	24	30	30	32	32	32	36	36	36
(F) Top	IN	16	16	16	16	12	12	12	12	12	18	18	18
(G) Rear	IN	12	12	12	12	24	24	24	24	24	36	36	36





NOTES:

- *Specifications and dimensions are approximate and for reference only. Fulton practices continuous product improvement and reserves the right to change specifications and/or dimensions without notice.*
- *Dimensions represent locations from which service clearances are measured, refer to end assembly drawings for overall dimensions.*

* *Compared to DOE minimum requirements*

Fulton®

Call: (315) 298-5121

972 Centerville Road
Pulaski, NY 13142

fulton.com/enduraxe
Drawings & documentation available online

ENDURA-XE_BROCHURE_251210

SECTION 00 6325 - SUBSTITUTION DURING CONSTRUCTION REQUEST FORM

1.1 INTRODUCTORY INFORMATION

A. Date: 2/5/2026

B. Requesting substitution of Approval for Finned Tube Radiation style, Sterling is approved

C. As specified in Section 23 8233 Convectors / 2.1 Hydronic or Steam Finned-Tube

D. Requested Substitute Product: Submittal attached for model approval.

1.2 SUBMITTING PARTY'S STATEMENT

A. Circle "Y" for yes and "N" for no for each of the following statements and submit supporting data. Indicate impact for all statements below answered as no, with supporting data:

1. (Y) (N) Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. (Y) (N) Requested substitution does not require extensive revisions to the Contract Documents.
3. (Y) (N) Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. (Y) (N) Substitution request is fully documented and properly submitted in accordance with "Product Substitution" and "Submittals" Articles in Division 01 Section "Product Requirements."
5. (Y) (N) Requested substitution will not adversely affect Contractor's Construction Schedule.
6. (Y) (N) Requested substitution has received necessary approvals of authorities having jurisdiction.
7. (Y) (N) Requested substitution is compatible with other portions of the Work.
8. (Y) (N) Requested substitution has been coordinated with other portions of the Work.
9. (Y) (N) Requested substitution provides specified warranty.

B. I hereby certify that the above statements are true.

Submitter's signature

Approved.

Chris Tindall
TowerPinkster
02/05/2026

© 2025 Tower Pinkster Titus Associates - All Rights Reserved

1.3 CONTRACTOR'S STATEMENT

A. I have reviewed this substitution request and am in agreement with the information presented and statements made. This proposal is complete, and there will be no further charges to the Owner as a result of the acceptance of this substitution.

_____

Contractor's signature

END OF DOCUMENT 00 6325

© 2025 Tower Pinkster Titus Associates - All Rights Reserved

B. Performance Ratings: Rate finned-tube radiators according to Hydronics Institute's "I=B=R Testing and Rating Standard for Finned-Tube (Commercial) Radiation."

C. Heating Elements: Copper tubing mechanically expanded into flanged collars of evenly spaced aluminum fins resting on element supports. One tube end shall be belled.

D. Heating Elements: Steel tubing mechanically expanded into flanged collars of evenly spaced steel fins resting on element supports. Tube ends shall be threaded.

E. Element Supports: Ball-bearing cradle type to permit longitudinal movement on enclosure brackets.

F. Front Panel: Minimum 0.0781-inch- thick steel.

G. Wall-Mounting Back Panel: Minimum 0.0329-inch- thick steel, full height, with full-length channel support for front panel without exposed fasteners.

H. Support Brackets: Locate at maximum 36-inch spacing to support front panel and element.

I. Finish: Baked finish in manufacturer's standard color as selected by Architect.

J. Damper: Knob-operated internal damper at enclosure outlet.

K. Access Doors: Factory made, permanently hinged with tamper-resistant fastener, minimum size 6 by 7 inches, integral with enclosure.

L. Enclosure Style: Sloped top.

1. Bottom Inlet: Open bottom.
2. Top Outlet Grille: Punched louver; painted to match enclosure.

M. Accessories: Filler sections, corners, relay sections, and splice plates all matching the enclosure and grille finishes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive convection heating units for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Examine roughing-in for hydronic-piping connections to verify actual locations before convection heating unit installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FINNED-TUBE RADIATOR INSTALLATION

A. Install units level and plumb.

© 2026 Tower Pinkster Titus Associates - All Rights Reserved

VERSA-LINE

Submittal

JVA-T / JVB-T14 20 24
Versa-Line
Copper/Aluminum and
Steel Element Ratings

☐ JVA Slip Jointed Enclosure

Specification

☐ JVB Slip Jointed Enclosure

ENCLOSURE:

STYLE: Flat Top, Top Outlet
OUTLET: Stamped Louvers
Pencil Proof

LENGTHS: 2'0" thru 8'0" in 6" Increments
MAT'L:
- ☐ 16 Ga. CRS (Std)
- ☐ 14 Ga. CRS (Opt'l)
- ☐ 16 Ga. Stainless Steel (Opt'l)
- ☐ 14 Ga. Stainless Steel (Opt'l)
- ☐ 14 Ga. Aluminum (Opt'l)
- ☐ 12 Ga. Aluminum (Opt'l)

HEIGHT:
- ☐ 14"
- ☐ 20" (JVB only)
- ☐ 24" (JVB only)

FINISH:
- ☐ Baked Powder (Std).
- ☐ Baked Metallic (Opt'l)

ACCESSORIES:

☐ JV Overlapping Type
All accessories return to the wall at the bottom and have pre-punched holes for fastening to the wall.

ELEMENT:

TYPE: ☐ Cu/AL (Mechanically Expanded)
LENGTHS: 2'0" thru 12'6" in 1" Increments for 1" & 1-1/4" Cu.
2'0" thru 8'0" in 1" Increments for 3/4"Cu.

One End Flared (Std)

TYPE: ☐ IPS Steel (Mechanically Expanded)
LENGTHS: 2'0" thru 12'6" in 1" Increments
- ☐ NPT Thread both Ends (Std)
- ☐ Beveled Ends for Field Weld (Opt'l)

See Catalog for Working Pressures

BACKPLATE:

TYPE: ☐ Partial B/P
LENGTHS: 8'0" Only
MAT'L:
- ☐ 20 Ga. Prepainted (Std)
- ☐ 18 Ga. Galvannealed (Opt'l)

TYPE: ☐ Full Ht. B/P (Opt'l)
LENGTH: 2'0" thru 8'0" in 6" Increments
MAT'L:
- ☐ 20 Ga. Galvannealed (Opt'l)
- ☐ 20 Ga. Painted (Opt'l)
- ☐ 18 Ga. Painted (Opt'l)

AIRSEAL:

☐ 1/8" x 3/8" Closed Cell (Opt'l)

BRACKETS:

- ☐ Water Brkt w/B.B.
- ☐ Steam Brkt w/Brkt Mtd
- ☐ B.B. Hgr, Bracket Mtd
- ☐ B.B. Hgr, Wall Mtd

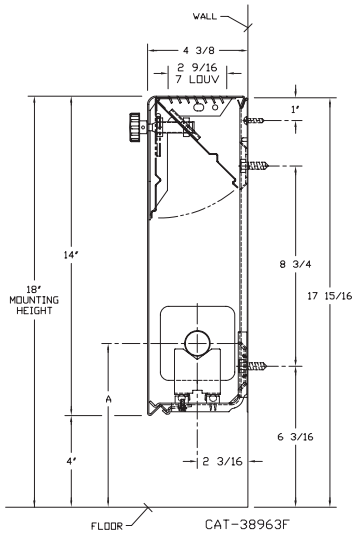
Wall Mtd B.B. Hgr required for 3rd Tier Element

DAMPER:

Damper Blades Factory Installed
- ☐ Knob Damper (Opt'l)
- ☐ Tamper Resistant (Opt'l)

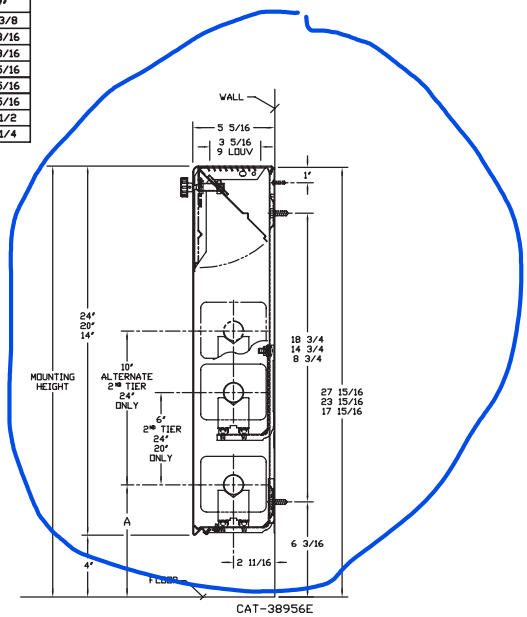
☐ JVA-T14

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 1/4 x 3 1/4	2	7"
1" COPPER	3 1/4 x 3 1/4	2	7 3/16
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 5/8
1" STEEL	3 1/4 x 3 1/4	2	7 5/16
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 13/16



☐ JVB-T14 20 24

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 5/8 x 4 1/4	2	7"
3/4 COPPER	4 1/4 x 4 1/4	3A	7 3/8
1" COPPER	3 5/8 x 4 1/4	2	7 3/16
1" COPPER	4 1/4 x 4 1/4	2	7 3/16
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 5/16
1 1/4 COPPER	4 1/4 x 4 1/4	2	7 5/16
1" STEEL	4 1/4 x 4 1/4	2	7 5/16
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 1/2
2" STEEL	4 1/4 x 4 1/4	1	7 1/4



STERLING®
COMMERCIAL HYDRONIC PRODUCTS
260 North Elm St., Westfield, MA 01085
(413) 564-5535 Fax: (413) 562-8437
www.sterlingheat.com

MADE IN THE USA

1/2024

PROJECT: Northgate Montessori DATE: 2/5/2026
LOCATION:
ARCHITECT:
ENGINEER: TowerPinkster
CONTRACTOR:
PO NUMBER:

STYLE “JVA-T / JVB-T 14, 20, 24” VERSA-LINE

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.) 200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	C3/4-33	3-1/4" SQ.	32	.020	14A	1	18	960	830	750	660	590	510	430	380	320	250
3/4"	C3/4-34	3-1/4" SQ.	40	.020	14A	1	18	1130	970	880	780	690	600	510	450	370	290
3/4"	C3/4-35	3-1/4" SQ.	50	.020	14A	1	18	1280	1100	1000	880	780	680	580	510	420	330
1"	C33	3-1/4" SQ.	32	.020	14A	1	18	940	810	730	650	570	500	420	380	310	240
1"	C34	3-1/4" SQ.	40	.020	14A	1	18	1080	930	840	750	660	570	490	430	360	280
1"	C35	3-1/4" SQ.	50	.020	14A	1	18	1220	1050	950	840	740	650	550	490	400	320
1 1/4"	C133	3-1/4" SQ.	32	.020	14A	1	18	900	770	700	620	550	480	410	360	300	230
1 1/4"	C134	3-1/4" SQ.	40	.020	14A	1	18	1040	890	810	720	630	550	470	420	340	270
1 1/4"	C135	3-1/4" SQ.	50	.020	14A	1	18	1190	1020	930	820	730	630	540	480	390	310
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1300	1120	1010	900	790	690	590	520	430	340
					20B	1	24	1380	1190	1080	950	840	730	620	550	460	360
					20B	2-6 CL	24	2015	1730	1570	1390	1230	1070	910	810	660	520
					24B	1	28	1420	1220	1110	980	870	750	640	570	470	370
					24B	2-6 CL	28	2100	1810	1640	1450	1280	1110	950	840	690	550
					24B	3-6 CL	28	2420	2080	1890	1670	1480	1280	1090	970	800	630
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1550	1330	1210	1070	950	820	700	620	510	400
					20B	1	24	1650	1420	1290	1140	1010	870	740	660	540	430
					20B	2-6 CL	24	2360	2030	1840	1630	1440	1250	1060	940	780	610
					24B	1	28	1700	1460	1330	1170	1040	900	770	680	560	440
					24B	2-6 CL	28	2460	2120	1920	1700	1500	1300	1110	980	810	640
					24B	3-6 CL	28	2800	2410	2180	1930	1710	1480	1260	1120	920	730
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1740	1500	1360	1200	1060	920	780	700	570	450
					20B	1	24	1870	1610	1460	1290	1140	990	840	750	620	490
					20B	2-6 CL	24	2690	2310	2100	1860	1640	1430	1210	1080	890	700
					24B	1	28	1960	1690	1530	1350	1200	1040	880	780	650	510
					24B	2-6 CL	28	2910	2500	2270	2010	1780	1540	1310	1160	960	760
					24B	3-6 CL	28	3290	2830	2570	2270	2010	1740	1480	1320	1090	860
1"	C433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360
					20B	1	24	1450	1250	1130	1000	880	770	650	580	480	380
					20B	2-6 CL	24	2260	1940	1760	1560	1380	1200	1020	900	750	590
					24B	1	28	1490	1280	1160	1030	910	790	670	600	490	390
					24B	2-6 CL	28	2340	2010	1830	1610	1430	1240	1050	940	770	610
					24B	3-6 CL	28	2690	2310	2100	1860	1640	1430	1210	1080	890	700
1"	C434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1650	1420	1290	1140	1010	870	740	660	540	430
					20B	1	24	1710	1470	1330	1180	1040	910	770	680	560	440
					20B	2-6 CL	24	2440	2100	1900	1680	1490	1290	1100	980	810	630
					24B	1	28	1780	1530	1390	1230	1090	940	800	710	590	460
					24B	2-6 CL	28	2530	2180	1970	1750	1540	1340	1140	1010	830	660
					24B	3-6 CL	28	2880	2480	2250	1990	1760	1530	1300	1150	950	750
1"	C435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1810	1560	1410	1250	1100	960	810	720	600	470
					20B	1	24	1960	1690	1530	1350	1200	1040	880	780	650	510
					20B	2-6 CL	24	2520	2170	1970	1740	1540	1340	1130	1010	830	660
					24B	1	28	2050	1760	1600	1410	1250	1090	920	820	680	530
					24B	2-6 CL	28	2730	2350	2130	1880	1670	1450	1230	1090	900	710
					24B	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1350	1160	1050	930	820	720	610	540	450	350
					20B	1	24	1420	1220	1110	980	870	750	640	570	470	370
					20B	2 @ 6 CL	24	2220	1910	1730	1530	1350	1180	1000	890	730	580
					24B	1	28	1460	1260	1140	1010	890	770	660	580	480	380
					24B	2 @ 6 CL	28	2300	1980	1790	1590	1400	1220	1040	920	760	600
					24B	3 @ 6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1580	1360	1230	1090	960	840	710	630	520	410
					20B	1	24	1680	1440	1310	1160	1020	890	760	670	550	440
					20B	2 @ 6 CL	24	2380	2050	1860	1640	1450	1260	1070	950	790	620
					24B	1	28	1740	1500	1360	1200	1060	920	780	700	570	450
					24B	2 @ 6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640
					24B	3 @ 6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1780	1530	1390	1230	1090	940	800	710	590	460
					20B	1	24	1920	1650	1500	1320	1170	1020	860	770	630	500
					20B	2 @ 6 CL	24	2460	2120	1920	1700	1500	1300	1110	980	810	640
					24B	1	28	2010	1730	1570	1390	1230	1070	900	800	660	520
					24B	2 @ 6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690
					24B	3 @ 6 CL	28	2990	2570	2330	2060	1820	1580	1350	1200	990	780

STYLE “JVA-T / JVB-T 14, 20, 24” VERSA-LINE

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.) 200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	C3/4-43	4-1/4" SQ.	32	.020	14B	1	18	1400	1200	1090	970	850	740	630	560	460	360
					20B	1	24	1595	1370	1240	1100	970	850	720	640	530	410
					20B	2-6 CL	24	2215	1900	1730	1530	1350	1170	1000	890	730	580
					24B	1	28	1530	1320	1190	1060	930	810	690	610	500	400
					24B	2-6 CL	28	2305	1980	1800	1590	1410	1220	1040	920	760	600
					24B	3-6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690
3/4"	C3/4-44	4-1/4" SQ.	40	.020	14B	1	18	1700	1460	1330	1170	1040	900	770	680	560	440
					20B	1	24	1950	1680	1520	1350	1190	1030	880	780	640	510
					20B	2-6 CL	24	2480	2130	1930	1710	1510	1310	1120	990	820	640
					24B	1	28	1870	1610	1460	1290	1140	990	840	750	620	490
					24B	2-6 CL	28	2580	2220	2010	1780	1570	1370	1160	1030	850	670
					24B	3-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760
3/4"	C3/4-45	4-1/4" SQ.	50	.020	14B	1	18	1745	1500	1360	1200	1060	920	790	700	580	450
					20B	1	24	2000	1720	1560	1380	1220	1060	900	800	660	520
					20B	2-6 CL	24	2465	2120	1920	1700	1500	1310	1110	990	810	640
					24B	1	28	2060	1770	1610	1420	1260	1090	930	820	680	540
					24B	2-6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640
					24B	3-6 CL	28	2800	2410	2180	1930	1710	1480	1260	1120	920	730
1"	C43	4-1/4" SQ.	32	.020	14B	1	18	1490	1280	1160	1030	910	790	670	600	490	390
					20B	1	24	1550	1330	1210	1070	950	820	700	620	510	400
					20B	2-6 CL	24	2390	2060	1860	1650	1460	1270	1080	960	790	620
					24B	1	28	1600	1380	1250	1100	980	850	720	640	530	420
					24B	2-6 CL	28	2470	2120	1930	1700	1510	1310	1110	990	820	640
					24B	3-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740
1"	C44	4-1/4" SQ.	40	.020	14B	1	18	1720	1480	1340	1190	1050	910	770	690	570	450
					20B	1	24	1820	1570	1420	1260	1110	960	820	730	600	470
					20B	2-6 CL	24	2570	2210	2000	1770	1570	1360	1160	1030	850	670
					24B	1	28	1890	1630	1470	1300	1150	1000	850	760	620	490
					24B	2-6 CL	28	2670	2300	2080	1840	1630	1420	1200	1070	880	690
					24B	3-6 CL	28	3040	2610	2370	2100	1850	1610	1370	1220	1000	790
1"	C45	4-1/4" SQ.	50	.020	14B	1	18	1930	1660	1510	1330	1180	1020	870	770	640	500
					20B	1	24	2100	1810	1640	1450	1280	1110	950	840	690	550
					20B	2-6 CL	24	2540	2180	1980	1750	1550	1350	1140	1020	840	660
					24B	1	28	2200	1890	1720	1520	1340	1170	990	880	730	570
					24B	2-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740
					24B	3-6 CL	28	3210	2760	2500	2210	1960	1700	1440	1280	1060	830
1-1/4"	C143	4-1/4" SQ.	32	.020	14B	1	18	1460	1260	1140	1010	890	770	660	580	480	380
					20B	1	24	1520	1310	1190	1050	930	810	680	610	500	400
					20B	2-6 CL	24	2350	2020	1830	1620	1430	1250	1060	940	780	610
					24B	1	28	1570	1350	1220	1080	960	830	710	630	520	410
					24B	2-6 CL	28	2430	2090	1900	1680	1480	1290	1090	970	800	630
					24B	3-6 CL	28	2790	2400	2180	1930	1700	1480	1260	1120	920	730
1-1/4"	C144	4-1/4" SQ.	40	.020	14B	1	18	1690	1450	1320	1170	1030	900	760	680	560	440
					20B	1	24	1790	1540	1400	1240	1090	950	810	720	590	470
					20B	2-6 CL	24	2520	2170	1970	1740	1540	1340	1130	1010	830	660
					24B	1	28	1860	1600	1450	1280	1130	990	840	740	610	480
					24B	2-6 CL	28	2620	2250	2040	1810	1600	1390	1180	1050	860	680
					24B	3-6 CL	28	2990	2570	2330	2060	1820	1580	1350	1200	990	780
1-1/4"	C145	4-1/4" SQ.	50	.020	14B	1	18	1900	1630	1480	1310	1160	1010	860	760	630	490
					20B	1	24	2060	1770	1610	1420	1260	1090	930	820	680	540
					20B	2-6 CL	24	2500	2150	1950	1720	1530	1330	1130	1000	830	650
					24B	1	28	2160	1860	1680	1490	1320	1140	970	860	710	560
					24B	2-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720
					24B	3-6 CL	28	3140	2700	2450	2170	1920	1660	1410	1260	1040	820

Note: Copper tube furnished flared one end standard.

STYLE “JVA-T / JVB-T 14, 20, 24” VERSA-LINE

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

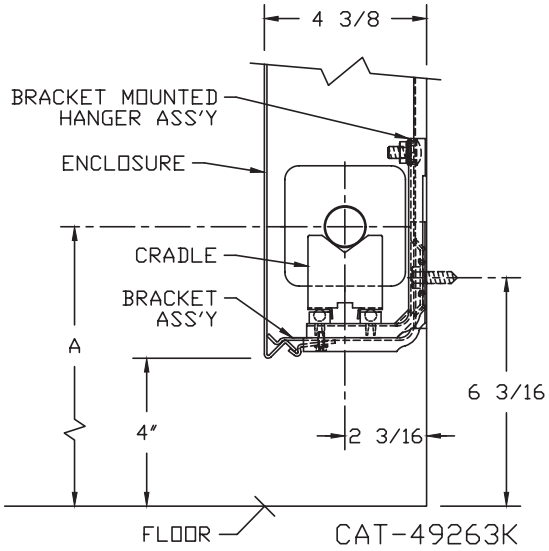
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.) 200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	S33	3-1/4" SQ.	32	.032	14A	1	18	840	720	660	580	510	450	380	340	280	220
1"	S34	3-1/4" SQ.	40	.032	14A	1	18	965	830	750	670	590	510	430	390	320	250
1"	S35	3-1/4" SQ.	50	.032	14A	1	18	1035	890	810	710	630	550	470	410	340	270
1-1/4"	S133	3-1/4" SQ.	32	.032	14A	1	18	850	730	660	590	520	450	380	340	280	220
1-1/4"	S134	3-1/4" SQ.	40	.032	14A	1	18	960	830	750	660	590	510	430	380	320	250
1-1/4"	S135	3-1/4" SQ.	50	.032	14A	1	18	1000	860	780	690	610	530	450	400	330	260
1"	S43	4-1/4" SQ.	32	.032	14B	1	18	1200	1030	940	830	730	640	540	480	400	310
					20B	1	24	1250	1080	980	860	760	660	560	500	410	330
					20B	2-6 CL	24	2030	1750	1580	1400	1240	1080	910	810	670	530
					24B	1	28	1280	1100	1000	880	780	680	580	510	420	330
					24B	2-6 CL	28	2080	1790	1620	1440	1270	1100	940	830	690	540
					24B	3-6 CL	28	2390	2060	1860	1650	1460	1270	1080	960	790	620
1"	S44	4-1/4" SQ.	40	.032	14B	1	18	1420	1220	1110	980	870	750	640	570	470	370
					20B	1	24	1500	1290	1170	1040	920	800	680	600	500	390
					20B	2-6 CL	24	2200	1890	1720	1520	1340	1170	990	880	730	570
					24B	1	28	1560	1340	1220	1080	950	830	700	620	510	410
					24B	2-6 CL	28	2270	1950	1770	1570	1380	1200	1020	910	750	590
					24B	3-6 CL	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670
1"	S45	4-1/4" SQ.	50	.032	14B	1	18	1485	1280	1160	1020	910	790	670	590	490	390
					20B	1	24	1570	1350	1220	1080	960	830	710	630	520	410
					20B	2-6 CL	24	2255	1940	1760	1560	1380	1200	1010	900	740	590
					24B	1	28	1635	1410	1280	1130	1000	870	740	650	540	430
					24B	2-6 CL	28	2325	2000	1810	1600	1420	1230	1050	930	770	600
					24B	3-6 CL	28	2630	2260	2050	1810	1600	1390	1180	1050	870	680
1-1/4"	S143	4-1/4" SQ.	32	.032	14B	1	18	1100	950	860	760	670	580	500	440	360	290
					20B	1	24	1150	990	900	790	700	610	520	460	380	300
					20B	2-6 CL	24	1860	1600	1450	1280	1130	990	840	740	610	480
					24B	1	28	1180	1010	920	810	720	630	530	470	390	310
					24B	2-6 CL	28	1910	1640	1490	1320	1170	1010	860	760	630	500
					24B	3-6 CL	28	2200	1890	1720	1520	1340	1170	990	880	730	570
1-1/4"	S144	4-1/4" SQ.	40	.032	14B	1	18	1410	1210	1100	970	860	750	630	560	470	370
					20B	1	24	1490	1280	1160	1030	910	790	670	600	490	390
					20B	2-6 CL	24	2190	1880	1710	1510	1340	1160	990	880	720	570
					24B	1	28	1550	1330	1210	1070	950	820	700	620	510	400
					24B	2-6 CL	28	2260	1940	1760	1560	1380	1200	1020	900	750	590
					24B	3-6 CL	28	2580	2220	2010	1780	1570	1370	1160	1030	850	670
1-1/4"	S145	4-1/4" SQ.	50	.032	14B	1	18	1475	1270	1150	1020	900	780	660	590	490	380
					20B	1	24	1560	1340	1220	1080	950	830	700	620	510	410
					20B	2-6 CL	24	2210	1900	1720	1520	1350	1170	990	880	730	570
					24B	1	28	1625	1400	1270	1120	990	860	730	650	540	420
					24B	2-6 CL	28	2280	1960	1780	1570	1390	1210	1030	910	750	590
					24B	3-6 CL	28	2580	2220	2010	1780	1570	1370	1160	1030	850	670
2"	S242	4-1/4" SQ.	25	.032	14B	1	18	1080	930	840	750	660	570	490	430	360	280
					20B	1	24	1120	960	870	770	680	590	500	450	370	290
					20B	2-6 CL	24	1790	1540	1400	1240	1090	950	810	720	590	470
					24B	1	28	1140	980	890	790	700	600	510	460	380	300
					24B	2-6 CL	28	1820	1570	1420	1260	1110	960	820	730	600	470
					24B	3-6 CL	28	2090	1800	1630	1440	1270	1110	940	840	690	540
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1260	1080	980	870	770	670	570	500	420	330
					20B	1	24	1310	1130	1020	900	800	690	590	520	430	340
					20B	2-6 CL	24	1980	1700	1540	1370	1210	1050	890	790	650	510
					24B	1	28	1340	1150	1050	920	820	710	600	540	440	350
					24B	2-6 CL	28	2020	1740	1580	1390	1230	1070	910	810	670	530
					24B	3-6 CL	28	2320	2000	1810	1600	1420	1230	1040	930	770	600

Notes: 1) Steel fins furnished as .032 thick, painted black.
2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
3) The ends can be provided chamfered for field welded fittings when specified.

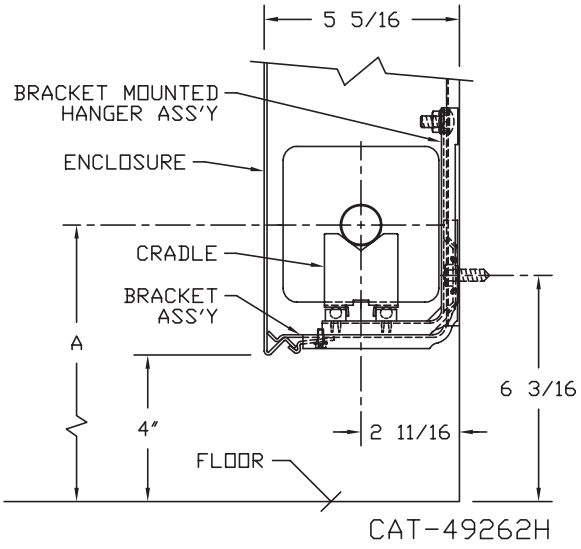
Steam Bracket and BB Hanger

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A MIN	A MAX
3/4 COPPER	3 1/4 x 3 1/4	2	7 3/8	9 5/8
1" COPPER	3 1/4 x 3 1/4	2	7 1/2	9 3/4
1 1/4 COPPER	3 1/4 x 3 1/4	1	7"	9 1/16
1" STEEL	3 1/4 x 3 1/4	2	7 5/8	9 3/4
1 1/4 STEEL	3 1/4 x 3 1/4	1	7 3/16	9 3/8

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A MIN	A MAX
3/4 COPPER	3 5/8 x 4 1/4	2	7 3/8	8 3/4
	4 1/4 x 4 1/4	3A	7 11/16	9 1/16
1" COPPER	3 5/8 x 4 1/4	2	7 1/2	8 7/8
	4 1/4 x 4 1/4			
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 5/8	9"
	4 1/4 x 4 1/4			
1" STEEL	4 1/4 x 4 1/4	2	7 5/8	9"
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 7/8	9 1/4
2" STEEL	4 1/4 x 4 1/4	1	7 5/8	9"



CAT-49263K



CAT-49262H

Design Data

COMMERCIAL FINNED TUBE CHARTS FOR RATING CORRECTIONS

For assistance with ratings and selection, please use our online Specifier.

CORRECTION FACTORS FOR WATER TEMPERATURES AND AIR TEMPERATURES OTHER THAN STANDARD

AVERAGE WATER TEMP. °F	ENTERING AIR TEMPERATURE °F														
	45	55	STD 65	70	75	80	85	90	95	100	110	120	130	140	150
90	.19	.13	.11	.06											
100	.25	.19	.15	.11	.08	.06									
110	.31	.25	.20	.16	.13	.11	.08	.06							
120	.38	.31	.26	.21	.19	.16	.13	.11	.08	.06					
130	.45	.38	.33	.28	.25	.21	.19	.16	.13	.11	.06				
140	.53	.45	.40	.34	.31	.28	.25	.21	.19	.16	.11	.06			
150	.61	.53	.45	.41	.38	.34	.31	.28	.25	.21	.16	.11	.06		
160	.69	.61	.53	.49	.45	.41	.38	.34	.31	.28	.21	.16	.11	.06	
170	.77	.69	.61	.57	.53	.49	.45	.41	.38	.34	.28	.21	.16	.11	.06
180	.86	.77	.69	.65	.61	.57	.53	.49	.45	.41	.34	.28	.21	.16	.11
190	.95	.86	.78	.73	.69	.65	.61	.57	.53	.49	.41	.34	.28	.21	.16
200	1.05	.95	.86	.82	.77	.73	.69	.65	.61	.57	.49	.41	.34	.28	.21
210	1.14	1.05	.95	.91	.86	.82	.77	.73	.69	.65	.57	.49	.41	.34	.28
▶ 215 (STD.)	1.19	1.09	1.00	.95	.91	.86	.82	.77	.73	.69	.61	.53	.45	.38	.31
220	1.24	1.14	1.05	1.00	.95	.91	.86	.82	.77	.73	.65	.57	.49	.41	.34
230	1.34	1.24	1.14	1.09	1.05	1.00	.95	.91	.86	.82	.73	.65	.57	.49	.41
240	1.44	1.34	1.25	1.19	1.14	1.09	1.05	1.00	.95	.91	.82	.73	.65	.57	.49
250	1.55	1.44	1.34	1.29	1.24	1.19	1.14	1.09	1.05	1.00	.91	.82	.73	.65	.57
260	1.66	1.55	1.44	1.39	1.34	1.29	1.24	1.19	1.14	1.09	1.00	.91	.82	.73	.65
270	1.76	1.66	1.55	1.50	1.44	1.39	1.34	1.29	1.24	1.19	1.09	1.00	.91	.82	.73
280	1.87	1.76	1.66	1.60	1.55	1.50	1.44	1.39	1.34	1.29	1.19	1.09	1.00	.91	.82
290	1.99	1.87	1.76	1.71	1.66	1.60	1.55	1.50	1.44	1.39	1.29	1.19	1.09	1.00	.91
300	2.10	1.99	1.87	1.82	1.76	1.71	1.66	1.60	1.55	1.50	1.39	1.29	1.19	1.09	1.00

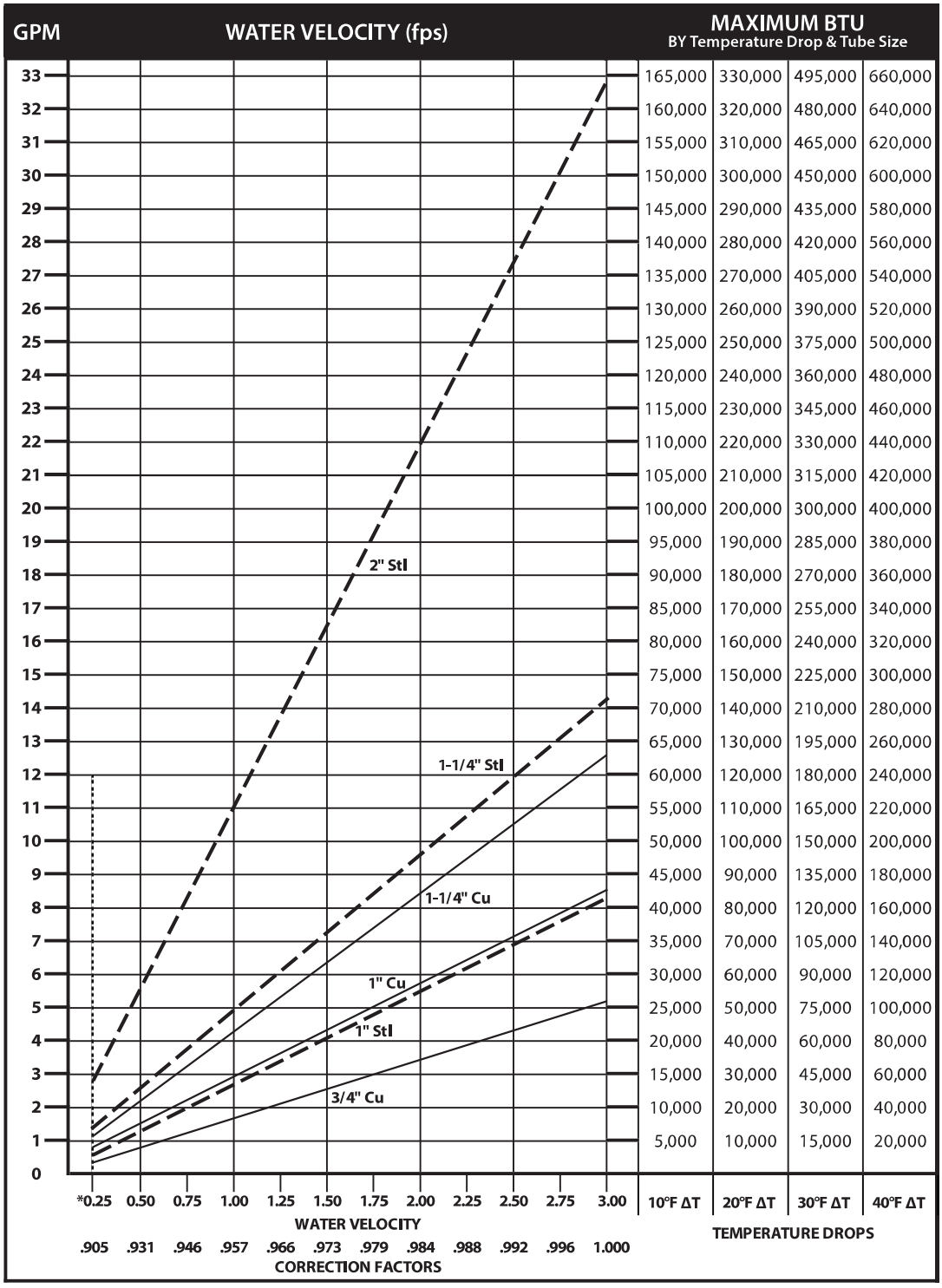
CORRECTION FACTORS FOR STEAM PRESSURES AND AIR TEMPERATURES OTHER THAN STANDARD

STEAM PRESSURE		TEMP. °F	ENTERING AIR TEMPERATURE °F													
GAUGE	ABS. PSI		45	55	STD 65	70	75	80	85	90	100	110	120	130	140	150
(VAC) 15" HG	7.32	178.9	0.90	0.80	0.70	0.65	0.60	0.56	0.51	0.45	0.39	0.32	0.25	0.18	0.13	0.08
(VAC) 10"	9.78	192.2	1.02	0.91	0.81	0.76	0.71	0.66	0.62	0.55	0.48	0.40	0.33	0.26	0.20	0.14
(VAC) 5"	12.25	202.9	1.11	1.00	0.90	0.85	0.79	0.75	0.70	0.63	0.56	0.48	0.40	0.33	0.27	0.20
0 PSI	14.696	212.0	1.19	1.09	0.97	0.92	0.87	0.82	0.77	0.70	0.63	0.54	0.46	0.38	0.31	0.25
▶ .899	15.595	215.0	1.22	1.11	1.00	0.95	0.90	0.84	0.80	0.75	0.65	0.57	0.48	0.40	0.33	0.26
5	19.70	227.1	1.34	1.22	1.11	1.05	1.00	0.95	0.90	0.81	0.75	0.66	0.57	0.49	0.41	0.34
10	24.70	239.4	1.45	1.33	1.22	1.17	1.11	1.05	1.00	0.91	0.85	0.75	0.66	0.58	0.50	0.42
15	29.70	249.8	1.55	1.43	1.31	1.26	1.20	1.14	1.09	1.00	0.94	0.84	0.75	0.66	0.57	0.49
20	34.70	258.5	1.63	1.52	1.40	1.33	1.28	1.23	1.17	1.07	1.02	0.92	0.82	0.73	0.64	0.55
25	39.70	266.8	1.71	1.59	1.47	1.41	1.36	1.30	1.25	1.15	1.09	0.98	0.89	0.80	0.71	0.62
30	44.70	274.0	1.78	1.66	1.54	1.48	1.42	1.37	1.31	1.21	1.15	1.05	0.95	0.85	0.76	0.68
40	54.70	286.7	1.91	1.79	1.66	1.61	1.54	1.49	1.43	1.32	1.27	1.16	1.06	0.97	0.87	0.78
50	64.70	297.7	2.02	1.90	1.77	1.71	1.65	1.60	1.54	1.42	1.37	1.26	1.16	1.06	0.96	0.87
60	74.70	307.3	2.10	2.00	1.87	1.81	1.75	1.69	1.63	1.51	1.47	1.35	1.25	1.15	1.05	0.95
70	84.70	316.0	2.20	2.09	1.95	1.89	1.83	1.77	1.71	1.59	1.55	1.44	1.33	1.23	1.12	1.03
80	94.70	323.9	2.27	2.17	2.03	1.97	1.91	1.85	1.80	1.69	1.63	1.52	1.41	1.31	1.20	1.10
90	104.70	331.2	2.36	2.24	2.11	2.05	1.98	1.93	1.87	1.74	1.70	1.59	1.48	1.38	1.28	1.17
100	114.70	337.9	2.43	2.31	2.18	2.11	2.05	2.00	1.94	1.81	1.77	1.65	1.54	1.44	1.33	1.23
125	139.70	352.9	2.59	2.47	2.33	2.27	2.21	2.16	2.10	1.96	1.92	1.80	1.69	1.59	1.48	1.38
150	164.70	365.9	2.73	2.62	2.47	2.43	2.35	2.29	2.23	2.08	2.05	1.94	1.82	1.72	1.61	1.51
175	189.70	377.4	2.86	2.74	2.60	2.54	2.47	2.41	2.35	2.21	2.17	2.05	1.95	1.85	1.73	1.63
200	214.70	387.8	2.95	2.85	2.71	2.63	2.58	2.52	2.47	2.31	2.29	2.17	2.06	1.96	1.84	1.75

From Keenan and Keyes — Linear Interpolation. NOTE: Gauge pressure should be corrected for altitude.

Rate of pitch for steam ½"drop over 20-foot run.

Design Data



*Do not design below .25 fps.

DYNAMIC FORMULAS

$$BTU = GPM \times 500 \times TD$$

$$GPM = \left(\frac{BTU}{500}\right) \div TD$$

$$TD = \left(\frac{BTU}{500}\right) \div GPM$$

Pressure Drop at Given Water Velocities (Feet of Water per 100 ft. of pipe) based on Hazen - Williams calculation

Nominal Pipe Size	Water Velocity (ft/sec)											
	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3/4" Copper	0.06	0.20	0.42	0.72	1.09	1.53	2.04	2.61	3.25	3.95	4.71	5.53
1" Copper	0.04	0.15	0.32	0.54	0.81	1.14	1.52	1.94	2.42	2.94	3.50	4.11
1 1/4" Copper	0.03	0.12	0.25	0.43	0.64	0.90	1.20	1.54	1.92	2.33	2.78	3.26
1" Steel	0.04	0.15	0.32	0.54	0.81	1.14	1.52	1.95	2.42	2.94	3.51	4.12
1 1/4" Steel	0.03	0.11	0.23	0.40	0.60	0.84	1.12	1.44	1.79	2.17	2.59	3.05
2" Steel	0.02	0.07	0.14	0.25	0.37	0.52	0.69	0.89	1.10	1.34	1.60	1.88

Design Data

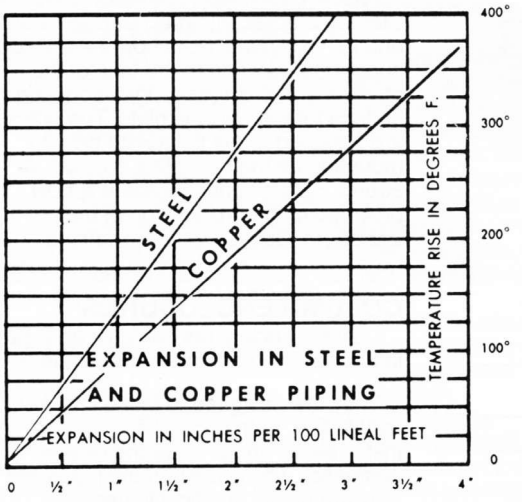
GUARANTEED WORKING PRESSURES

1" IPS — 780 at Temperatures up to 650˚F.
1-1/4" IPS — 660 at Temperatures up to 650˚F.
2" IPS — 405 at Temperatures up to 650˚F.
1-1/4" CU — 194 at Temperatures up to 300˚F.
1" CU 204 at Temperatures up to 300˚F.
3/4" CU 218 PSI at Temperatures up to 300˚F.

MAXIMUM PRESSURES AT OTHER TEMPERATURES ARE AVAILABLE UPON REQUEST.

Pipe Water Capacities and Quantities Circulated at Velocity of 3 Feet Per Second

Nominal Pipe Size	Pipe I.D. (inches)	Gals Per Lin. Ft.	GPM @ 3' per sec Velocity
3/4" Copper	0.835	0.028	5.12
1" Copper	1.077	0.047	8.52
1 1/4" Copper	1.315	0.071	12.70
1" Steel	1.075	0.047	8.49
1 1/4" Steel	1.395	0.079	14.29
2" Steel	2.115	0.183	32.85



Glycol Correction Factors

Fluid Temperature 200°F

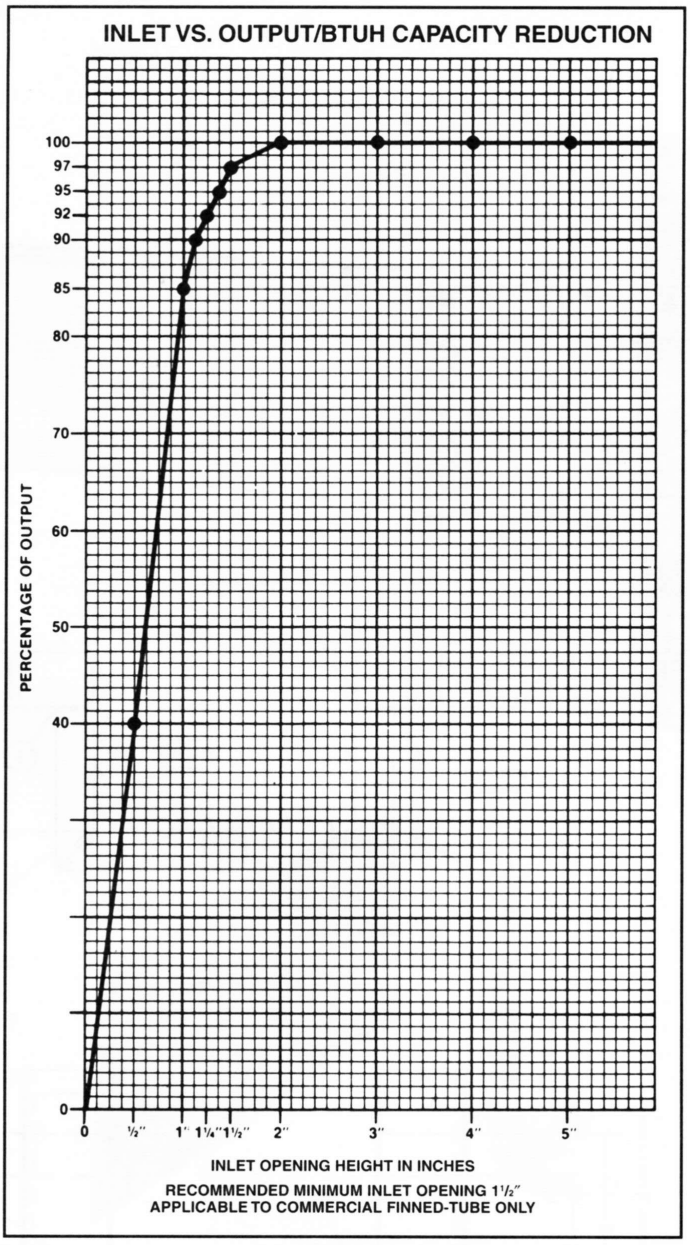
% Solution	Ethylene Glycol	Propylene Glycol
20	.952	.988
30	.921	.968
40	.888	.943
50	.852	.912

Fluid Temperature 180°F

% Solution	Ethylene Glycol	Propylene Glycol
20	.946	.982
30	.913	.961
40	.879	.934
50	.842	.902

Fluid Temperature 140°F

% Solution	Ethylene Glycol	Propylene Glycol
20	.934	.97
30	.898	.946
40	.861	.916
50	.821	.881



ALTITUDE FACTORS

Approximate factors for convective heat value at varying altitudes

Altitude	Ferrous Units	Copper Alum. Units
Sea Level	1.000	1,000
1,000 ft.	.984	.969
2,000 ft.	.968	.938
3,000 ft.	.952	.908
4,000 ft.	.936	.878
5,000 ft.	.920	.850
6,000 ft.	.904	.822
7,000 ft.	.889	.795
8,000 ft.	.874	.768
9,000 ft.	.859	.743
10,000 ft.	.844	.718
15,000 ft.	.771	.603
20,000 ft.	.703	.502

KPS NMMS- Pre-Bid RFI Log

Date-February 5, 2026

RFI #	Company Submitting RFI	Date Received	RFI Description	RFI Response
1	Moore Electric	1/26/2026	Bid Category 04 - Electrical •Do you know which fire alarm company is in this building currently?.	TSC: Riverside Integrated Systems - (616) 726-7026
2	TSC	1/27/2026	Bid Category 04 - Electrical •What is the responsibility of Bid Category 04 as it relates to work shown on the Technology Drawing Set?	TSC: All new doors with access controls need to be roughed in by Bid Category 04 - Electrical. The technology contractor will be responsible for removal, storage, installation and final wiring.
3	Lakeshore Glass	1/28/2026	Bid Category 02 - Aluminum Entrances / Storefronts / Doors •Door schedule labels glass as ILG-1 but this type is not called out in the spec section. Is ILG-1 needed as door glass or is IG-1 acceptable. Window elevation page calls out IG-1 for the storefront.	TP: IG-1 is to be provided in lieu of ILG-1
4	Battle Creek Glass	2/2/2026	Bid Category 02 - Aluminum Entrances / Storefronts / Doors •Division 08 – Openings, Is there a specification section for windows?	TSC: We have requested a specification for the sliding/egress windows and expect this answer from the architect by the end of the day 2/4. This will be released in addendum #2.
5	Battle Creek Glass	2/2/2026	Bid Category 02 - Aluminum Entrances / Storefronts / Doors •On Sheet number A502, Glazing Key, Insulated Spandrel Panel – Clear Anodized. Is this supposed to be glass or insulated aluminum panel?	TSC: Insulated glazing infill panel
6	Battle Creek Glass	2/2/2026	Bid Category 02 - Aluminum Entrances / Storefronts / Doors •I also cannot find a specification for the spandrel.	TP: The specification can be found in 08 4113-2.3-E

7	Battle Creek Glass	2/2/2026	Bid Category 02 - Aluminum Entrances / Storefronts / Doors •There are also no specifications on Aluminum Flush Doors.	TSC: The specification can be found in 08 4113-2.4-B
8	Hi Tech Electric	2/4/2026	Bid Category 04 - Electrical •In section 26 0500-1 Common Work Results for Electrical: #4 under “Scope of Work” states we are to provide a cash allowance of $50,000 for utility charges associated with electrical service upgrade. o Do we need to include this cost in our bid?	TSC: Please include allowances listed in 26 0500-1.3-A-4
9	Hi Tech Electric	2/4/2026	Bid Category 04 - Electrical •In section 26 2816-6 Enclosed Switches and Circuit Breakers: States Owner will engage in a qualified testing agency to perform tests and inspections. The next line states Engage a qualified testing agency to perform tests and inspections. o Do we need to provide this cost / sub contractor or is the owner responsible for this	Answer pending
10	Hi Tech Electric	2/4/2026	Bid Category 04 - Electrical • In section 28 3100-3 Fire Detection and Alarm: Under “2.1 Manufactures” it lists eight different fire alarm systems that are acceptable to provide the fire alarm system. o Does Kalamazoo Public Schools have a preference to which: - Fire alarm system gets installed. - Fire alarm contractor / company does the install.	Answer pending
11	Jergens	2/5/2026	Bid Category 03 - Mechanical • Can Pro Press ball valves be used on the hydronic piping system?	Answer pending
12	Swaney Sales	2/5/2026	Bid Category 03 - Mechanical • Please indicate what is approved for Condensing Unit Roof Pipe Supports. No details were found.	Answer pending
13	Swaney Sales	2/5/2026	Bid Category 03 - Mechanical • Will it be permissible to move the Condensing Units closer to the Roof Pipe penetration?	Answer pending